

THE SOUTHERN PLANTER.

Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts.—
Xenophon.

Tillage and Pasturage are the two breasts of the
State.—*Sully.*

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ESSAY ON IMPROVING AND ENRICHING POOR LAND.

BY WILLIAM D. GRESHAM.

In presenting to the Virginia State Agricultural Society for one of its premiums the following essay "Upon Improving and Enriching Poor Land," the author is actuated by no other desire than to impart the experience he has obtained from his efforts to improve the desolate wastes and barren hills of his own estate.

The practicability of "improving and enriching poor land, whether naturally poor or naturally rich, or good, and subsequently exhausted by severe cropping," is a question no longer to be doubted, if the facilities for improvement are properly used. All that is required is a well directed energy and industry on the part of the farmer, to double, if not treble, the increase of his crops. In discussing this important subject I proceed to give my views under the three following heads:

- I. The means to be used.
- II. The agents required.
- III. The proper rotation of crops and division of land.

I. THE MEANS TO BE USED.

The first and most important step to be taken by the farmer in "improving and enriching poor land" is a complete and thorough drainage, by means of both surface and under-drains, if necessary. There are few operations connected with the permanent improvement of arable lands which produce more immediate and thorough amelioration. Much of the low lands of this State would be essentially benefited by having shallow or deep drains cut through them as the occasion may require. These would carry off the water during the early spring and in the more advanced periods of autumn, when large quantities accumulate and have a tendency to abridge the fruitfulness of plants by washing and drowning their more superficial roots. Water, in excess, is as hurtful to the vegetable system, as the want of it. All vegetation demands a certain supply of moisture for the solution of valuable matter in the soil and to reduce it to a state of fluidity. Too much prevents decomposition, as is the case of submerged *muck*, which is known to remain in an undecomposed condition for years. And this is the reason why the valuable substances contained in the soil of low grounds do not have a be-

neficial effect upon the vegetation which those lands produce. On examining the qualities of such lands, they are almost invariably found to possess acid properties, resulting from redundant moisture. The acid requires to be neutralized before the soil or its vegetable constituents can be rendered available for agricultural purposes. Burning the surface of low lands after they have been effectually drained, will have a beneficial tendency. The ashes will add certain mineral constituents, which will be of essential service in effecting a permanent mechanical amelioration in the texture of the soil, and in reducing it to a proper condition to receive other manures that may be applied, and which will act beneficially.

Draining, if it be performed at a proper time, involves no very onerous expense. The work may be let out by the job, or performed by farm hands, often in seasons when there is little else to employ them, but, by whomsoever performed, care should be taken to accomplish it in the most thorough manner. A poor or insufficient drain occupies the land to no advantage. If it chokes in consequence of inequalities or sudden turns, it will invariably effect more harm than good. It should proceed as nearly on a straight line as practicable, and never have less than two inches fall to every fifty rods of its extent. This will insure sufficient velocity in the current to carry off all the water that will be likely to accumulate in ordinary storms, without exposing the drain to injury from washing.

Covered drains, as they deface the fields less, are now almost universally preferred to the old fashioned open ones, and if laid sufficiently deep in the soil, they oppose no obstacle to the cultivation of the surface, or to the passage of carts, which is an objection to the open drain, especially where not only a main channel, but numerous branch drains are rendered necessary. Draining tiles are now advertised for this purpose, and are found to be highly useful and economical; they save much time; are very durable, and when properly formed and laid are not liable to choke.

Another method of constructing under-drains is to dig (if the substratum is of clay or other tenacious soil) a trench some three feet wide by eighteen inches deep, and along the centre of this sink another of the same depth and eight inches in width. This is then covered with flat stones, or in case they cannot be obtained, with green poles and bushes, and covered with the soil which had been removed. There are many other plans recommended for covered drains, but after all that can be advanced in favor of the several systems or methods of drain-

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ing, that which is effected by means of tiles is unquestionably the most efficient and economical. The work is much more speedily performed, and there is little or no danger of a failure. The durability of good draining tile and the perfect manner in which they are introduced, obviates many of the unpleasant and expensive contingencies attending the introduction and use of other materials, especially, stone, brick and wood. With a proper descent, they rarely choke, and being remarkably hard and impervious to water, and proof against the chemical action of the soil, do not admit of the escape of the water, but conduct it off without allowing a particle to escape.

The importance of drainage is sufficient to recommend its adoption, upon practical principles, by every person who has stiff, wet lands to improve. For an excess of moisture prevents the process of decay, or the decomposition of the organic matters in the soil, and thus cuts off a regular supply of food from the growing crops. Not only the swamps and low lands require it, but there is much other land which is too wet in the early part of the season, or on which there are springs that saturate the surface. Such lands may be hard, and may even bear ploughing, yet they are both cold and sour, and require to be thoroughly drained.

Very low, peaty, or mucky lands, which are affluent in soluble matters, are very valuable under a judicious system of improvement, of which draining must be regarded as the primary or initial step. By the removal of stagnant water from these lands, and thereby the prevention of noxious exhalations, the climate is rendered more healthy and genial, both to animal and vegetable life. Indeed, since the introduction of draining in the tide water region of this State, agues and fevers, occasioned by the humidity of the soil and the consequent impurity of the atmosphere, have been in a great measure prevented, and the health of the inhabitants improved.

The next important "means to be used" in improving and enriching poor land, is deep ploughing and thorough pulverization of the soil. Most lands that have become impoverished by cultivation, have been reduced to sterility by shallow ploughing, and the consequent washing away of the soil, rather than by the exhaustion of the powers of production by the growth of crops. For it is a well attested fact that, a larger portion of the vegetable matter of an improperly ploughed soil is carried off by the dashing rains of summer than has ever been used in the production of crops; or should it not be carried off the ground, remains to settle into a compact impervious mass, of little use in supplying moisture or nourishment to the roots of plants. The great benefit derived from the retention of moisture in the ground, in order to its improvement as well as in regard to the production of crops, has, no doubt, been exemplified in the experience of all practical farmers in tracing the covered drains through their fields, by the greater luxuriance of the vegetation over or near them. Most of the rain that falls during the summer months is in hasty showers; therefore, when land is well pulverized, say to the depth of eight or ten inches, it will not only receive, but retain a much larger amount of water than such as has received but a superficial ploughing. The more thoroughly land is ploughed, the better chance there is for a good crop, no matter what it is—for when land is completely pulverized, the weeds can be more easily destroyed; the earth itself retains more

moisture than when badly wrought and cloddy, and it is in a better condition to receive any and all manures, and of rendering them available to the crop. The subject of ploughing does not receive that attention from farmers to which it is entitled. The practical part no tiller of the soil will hesitate to perform, but the theory also should be properly understood in order to avoid the evils resulting from the *skinning* process so generally pursued. Deep ploughing is absolutely necessary in the cultivation of all crops, especially corn—the extension of its roots, the amount of moisture to be supplied, the constant supply of oxygen to act upon the humus of the soil, converting it into carbonic acid, together with the inorganic elements required for its formation, are all promoted by deep ploughing. By deep ploughing a new surface is brought up to be acted upon, and more of the inorganic and organic elements of the soil, which have been dormant and entirely useless to crops, are brought into requisition, and the land itself thereby improved. In a recent communication from a distinguished farmer in answer to some queries in regard to ploughing, he says: "For about fifteen years I have been ploughing as deep as I could on the farm where I now reside, without having, in a single instance, injured the crop or land; and more than this, I have in the mean time restored the land from the most extreme state of poverty to that of at least good farming land." Stiff clay fields that are intended for spring crops should be ploughed every opportunity through the winter, when the ground is not wet, taking care to lap the furrow slices so that the water which falls may find drains beneath them to carry it off. The action of frost will have a tendency to break down the tenacity of such soils, and greatly improve their texture. Nothing is better calculated than exposure to freezings and thawings, (after winter ploughing, when effectually done at a time when the land is not saturated with water,) to effect this desirable object. If ploughed when wet the object will not only be defeated, but the soil will remain in a bad condition throughout the season. Where a tenacious stiff substratum lies near the surface, so that the roots of the crops will come in contact with it, and the growth of the plants be thereby impeded, subsoiling, or trench-ploughing, should be resorted to, and will be found entirely successful in the amelioration of the land as well as of great benefit to the crops. Harrowing, which is intimately connected with ploughing, is one of the most important operations, and one not sufficiently attended to. I contend that all lands should be thoroughly harrowed before being cultivated in any crop. It is from deep spading and harrowing that gardeners depend mainly for the successful cultivation of vegetables. Although they may use many different and useful manures to the greatest extent, yet they know that if the tilth is shallow and the harrowing imperfect, the product of their crops will be short, and especially so in a time of drought.

The third and last "means to be used" by the farmer in improving and enriching poor land which I shall mention, is the extermination of briars and sassafras sprouts. This is one of the most difficult and disagreeable operations the farmer has to perform in the improvement of his land. The difficulty of their extirpation has long been a barrier to the successful cultivation of crops. Indeed, I consider them more formidable as foes to improvement than broomsedge and poverty grass. Many unavailing remedies have been prescribed for these

pests, such as "pasturing cattle upon them;" "digging them up in the month of July," &c.; but I and several of my neighbors have found the following prescription for their extirpation to be entirely successful. In the month of June or the first of July, take a grass scythe and cut them off about two or three inches from the ground. This will cause them to bleed freely, and if an application of from one to two bushels of salt to the acre be made immediately, their eradication may be confidently expected. Salt being injurious to the growing vegetation its action will at once be understood. It, however, imparts to the land certain valuable mineral properties in the form of chlorine and soda, and in this manner improves the texture of the soil. Upon a piece of land proverbially poor, and which, from its poverty-stricken appearance, had been thrown out of cultivation for several years, owing to the extensive growth of briars and sassafras sprouts, the above prescription was used in the month of June, 1851. In August an application of thirty-five bushels of lime was made, and the land allowed to remain until the following spring, when it was, in the month of May, broken up with a large double plough, and a bushel of peas seeded and raked in. The peas grew off finely, and in the month of August a bushel of plaster to the acre was scattered over the peas. The following month they presented a fine growth of green vegetation, to be turned in for wheat. The wheat grew off finely, attracted observation, and was a subject of general remark, owing to its growth and appearance. The wheat has been carefully saved and accurately measured and the result was 15 bushels to the acre.

II. AGENTS REQUIRED.

Under this head it will be necessary to describe some of the indispensable inorganic and organic agents required by the farmer "in improving and enriching poor land." The first I shall mention is lime, which I regard as the substratum of all permanent improvement—the grand agent that prepares for the crops nearly all the food which the earth furnishes, and "in improving and enriching poor land," must be used either in its simple substance or substituted by other calcareous earths. So great has been the action of lime upon land in some sections of our State, that it has been regarded as a sure *panacea* for the "ills and cures" of all poor land, especially upon those lands which abound in acids and which are discernible in the large and luxuriant growth of the acid grasses which they produce. Lime is an agent in the amelioration of arable land, but he who relies solely upon it to effect every thing in making his land more permanently productive, will necessarily find himself disappointed. But he who judiciously uses it as an auxiliary to other substances, positively nutritive, will have the gratification of realizing his most sanguine expectations. Fertility, in a measure, depends upon its presence in a soil, but there are other elements which are equally essential to the growth and maturation of grain and plants. The office of lime is to restore the capacity for production, but without additions of other substances, convertible into food for plants, its beneficial effects must necessarily be arrested. Soils, which may have been long in culture, and apparently exhausted, by a severe course of cropping, become charged with quantities of inert vegetable matter, which, on the application of lime, is transferred into decomposing bodies, and converted into nutritive manures for the growing plants. It neu-

tralizes acids found in many soils which are hurtful to vegetation, and which sometimes abound even in humus, according to the character of the plants from whose decay it has been formed. Applied to the surface of grass land a year, or even two years, before being broken up, it will more thoroughly incorporate itself in the soil, through the agency of the frosts and rains of winter. By the force of its specific gravity, its tendency is to sink into the earth, to diffuse itself through the mass, and to act generally on the soil. When thus applied its good effects are more visible in the first crops, from the fact that the moment it is applied to the surface of such lands its agency in preparing the food of plants commences, and incorporated thoroughly with the soil, it combines with, and immediately operates in reducing all the root fibre and insoluble organic remains of the natural herbage it may happen to meet with, and thus convert into nutriment for the succeeding crop what was before of no service; and if any acid or noxious rejected matter should be left by the plants of the previous rotation, the acid and noxious principles are neutralized and the soil purified and enriched at the same time. The action of lime is manifold: it will render stiff clays more friable and easy to be cultivated, and from the minuteness of its particles readily insinuate itself into the clay, disengaging by its strong action organic matter contained in the aluminous masses, destroying the continuous solidity of the clay, and liberating the gases contained in it. While on the other hand, upon light soils its effects are equally beneficial, combining with any organic manures that may be added to the soil, it prevents their wasteful and too rapid escape; and by thus rendering the soil more retentive of moisture, and improving its texture and consistence, eminently promotes and increases its fertility. My preference has long been given to *oyster shell* lime, owing to the phosphoric acid it contains, and which causes it to act much more promptly than stone lime. It cannot be dispensed with in the improvement and perfecting of any soil, unless it should be naturally calcareous, a condition easily detected by its effervescence when tested with acids, whilst its absence from a soil may as readily be known by the growth of the acid grasses. The quantity of lime per acre, which can be used advantageously varies with the condition and original character of the soil—highly improved land will bear a heavier dressing than poor land. On a soil of medium condition the usual dressing is forty or fifty bushels, while on very poor land twenty or thirty bushels per acre is deemed most advantageous to commence with, the application to be repeated at intervals until a sufficient quantity is obtained. Applying lime with accuracy can be done with no very great trouble. Obtain stakes twenty-one feet long, and check the entire field over each way; the check being seven yards square, they contain forty-nine square yards; and if we allow 4900 square yards to make an acre, and a half bushel of lime is deposited in the middle of each square, it would make exactly fifty bushels to the acre. Stakes 24 feet long would make nearly forty bushels to the acre; and in this manner any amount can be applied that may be desired. I regard this as the most successful way of applying lime, the checks being perfectly visible, and the lime being deposited in the middle of the square the hands can spread it over the whole space with great accuracy. All agricultural writers and chemists agree upon 100 to 150 bushels of lime to an acre as a sufficient

quantity for almost any lands, and its beneficial effects will last from fifteen to twenty years, no other application being needed for that space of time.

Plaster being a combination of lime and sulphuric acid, it will be necessary to mention its beneficial effects in this connection. To the extent of the quantity of lime it contains it benefits all soils which lime would benefit in the same manner and by the same chemical process. It possesses the valuable additional property of fixing the ammonia contained in manure, and applied to land it fixes the ammonia in the soil which is formed by the slowly decomposing roots and other substances found in it. Plaster will attract ammonia and other gases floating in the atmosphere and fix them about those plants which feed principally upon the air, by means of their leaves, as well as acting as direct food for them, either in supplying the sulphate of lime, or by its decomposition affording the sulphur necessary for their development. It is particularly useful in dry seasons on light, calcareous soils, from the fact that it attracts and absorbs moisture from the atmosphere. All vegetables and plants derive their nourishment from the air as well as the soil, while many live almost entirely from what they receive from the air and water; therefore, to all, and particularly to the latter, or the leguminous class of plants, is plaster beneficial. It is indispensable in the cultivation of clover and other broad leaved plants; and when putrescent manures cannot be supplied clover and plaster must supply their places. No where can plaster be more judiciously used than from time to time on the manure heaps, over the cattle yards, sheepfolds and in the stables, in absorbing and fixing the valuable properties of manure which are constantly escaping in the form of gases. I would, therefore, advise the use of plaster in all the vegetable and animal manures raised upon the farm, as well as its liberal use upon all green crops designed for the improvement of land.

Marl.—This is another agent "in improving and enriching poor land," and may be regarded by those who possess it as equally important as lime, for it not only performs all the offices of lime, but from its combination with other inorganic and organic substances found in the soil, renders it, where it can easily be obtained, much more valuable and efficient. So great is the deficiency of farmers in the knowledge of agricultural chemistry and chemical analysis, and their consequent ignorance of the qualities of the marl which they use, that many who have tried it have become dissatisfied with its action and abandoned its use. Marls, which, from a superficial view, appear to have the most shell and other valuable properties, especially those through which water charged with carbonic acid percolates, are found by analysis to contain but a small portion of carbonate of lime. Feeling the want of proper means to analyze marl, and knowing it could be done with but little trouble, to ascertain the amount of carbonate of lime it contained, many years since I wrote to the late lamented and distinguished agriculturist, Gen. Corbin Braxton, and obtained from him his mode of analyzing marls, which I here append, as a cheap and simple plan for enabling the farmer to arrive at the amount of carbonate of lime his marl may possess:

"One hundred grains of carbonate of lime is composed of 46 grains of carbonic acid gas and 54 grains of caustic lime; therefore, if you wish to ascertain the quantity of carbonate of lime in any earth, take a piece of it, a fair sample, and dry it well to get all the moisture out of it—pound it

finely in a mortar, and weigh out 100 grains; having provided yourself with a thin, wide mouth glass vessel—an old quinine bottle answers very well—then put into it enough muriatic acid, mixed with three times its quantity of water, say one drachm of acid to three drachms of water, if you think your marl has not more than 20 per cent. of carbonate of lime, and for every 20 grains of lime you think your marl has, add another drachm. If your marl has 40 per cent. take 2 drachms of acid and 6 drachms of water; if 60 per cent., 3 drachms of acid and 9 drachms of water. In that proportion having put what acid and water you may want in the vial, then balance it in a scale with any thing you may have at hand. Having done this, add gently to the water and acid the 100 grains of marl already weighed out, and when the effervescence is entirely over, put the vial in the scale again and weigh it, to ascertain the quantity of carbonic acid gas that is lost. Say 17 grains—that is, the vial with the 100 grains of marl that was put into it weighed less by 17 grains—you then work it out by the Rule of Three:

$$\begin{array}{r} \text{Say } 46—100—17 \\ \quad \quad \quad 100 \\ 46 \overline{) 1700} \{ 36.44 \\ \quad 138 \\ \quad \quad 320 \\ \quad \quad 276 \\ \quad \quad \quad 44 \end{array}$$

About 37 per cent. of carbonate of lime."

The calcareous earths used in Virginia are the miocene and eocene marls and green sands, which are found in extensive quantities in the tide water region of the State. The miocene marls contain mostly clay and shell, and are valuable for the amount of carbonate of lime they possess, and if applied to light soils act in a twofold capacity—in supplying lime and clay, which improve the texture of such soils. The eocene marls and green sands, especially those found on the Pamunky and James rivers, are mostly valuable for the lime, plaster, potash, soda and other valuable substances which they contain, as will appear from the analyses made by Professor Gillham of the Virginia Military Institute, who seems to have made the first and only correct analyses of these marls which have ever yet been submitted to the public. The action of the marls found upon the Pamunky river is more valuable than any manure I have ever yet seen applied. It is that which has rendered the farms on it so valuable and given them a celebrity which is not surpassed by any lands in the State. The Retreat farm, in Hanover county, by the application of this marl has been brought from a state of great sterility to the most highly improved condition of any land in that section of country—and it may truly be said that those regions which abound in deposits of this article are blessed with mines of inestimable wealth.

Ashes.—The action of unleached and leached ashes upon land as a promoter of vegetation renders it necessarily an agent "in improving and enriching poor land." Ashes are a valuable manure, not only for the potash they contain, but for many other of their constituents, which cannot be removed by leaching, and which preserve a value very little inferior to those which have not undergone that process. They are highly worthy of the attention of the agriculturist for the many sub-

stances essential to vegetation which they contain, particularly potash. Although the quantity of the potash contained in them may be small, yet by its chemical action of decomposing and rendering soluble some of the most intractable, though essential, of the mineral constituents of manures, and reducing them to a condition of suitable nutriment to crops, it renders them a valuable and permanent manure. All clay lands contain potash unless deprived of it by long continued and exhausting cultivation, consequently its action on light siliceous soils is much more apparent, and in supplying the silicate of potash, that which forms the outer coat of all vegetable substances, and thereby giving them the power of production, renders it most valuable for such soils. After a sufficient quantity of lime or marl has been applied to land it becomes the duty of the farmer to commence with an application of ashes, as they supply the soil with still more of the alkalies which they require for production. The effect of the application of ashes has been visible in the experience of all farmers who have tried them, but as a full supply can only be obtained in the immediate neighborhoods of cities, and that only at a high cost, owing to "the supply being unequal to the demand," and then often in an adulterated condition, I shall urge their use no further than to recommend them whenever a genuine article can be obtained at a fair cost.

Guano.—The value of guano is now universally known and its use rapidly extending throughout our country. To the farmer who has neither the advantages of lime nor marl and who is remote from navigation, it may be said to be essential in improving his land, for it places him almost upon an equal footing with him who has the advantages of marl, or who from his proximity to market can avail himself of lime. An experience in the use of guano for several years, together with an observation of its effects under the management of others, induces me to believe it is a most valuable agent, not only for the advancement of improved lands to a still higher state of fertility, but for the resuscitation of those long since exhausted and abandoned. There is no agent which the farmer can employ so prompt in its action as guano. It is unquestionably one of the cheapest, most profitable and concentrated fertilizers that can be used. By its prompt action it not only soon reimburses its cost by the increase of the crop to which it is applied, but leaves the land in a fine condition for the growth of clover and other grasses. This manure has scarcely ever failed of producing a good crop whenever it has been fairly tried, unless the article used was of an inferior quality or a dry season followed after its application. It is beneficially applied when ploughed in from three to four inches, as spread upon the earth, and for permanent effects should be ploughed in still deeper. All top-dressings with guano are inexpedient and wasteful, as from the volatile nature of the active parts of the manure, great loss must inevitably result from all such applications, and because more moisture than is to be found on the surface, is necessary to excite and carry on that progressive state of decomposition which is required to render guano most available for present production and future improvement. Guano is the most active of manures. The large quantity of ammonia it contains and its evanescent nature, renders it necessary that something should be used to fix its volatile parts. It is recommended by most practical farmers to mix a peck of plaster with every 100 pounds of

guano. By this mixture the sulphuric acid of the former, from its greater affinity for ammonia than for lime, is liberated, when a new compound is formed between the two former, that of sulphate of ammonia, a form in which the latter salt is much more moderately soluble, and therefore longer retained in the soil, and the more durably efficacious as the food of plants. Guano may be used with entire success in the first process "in improving and enriching poor land." It prepares the soil for the application of lime or marl, supplies it with the necessary vegetable substances to be acted upon by them, and renders the improvement of the land permanent. Two hundred pounds of guano are applied usually to the acre when the land is in moderate heart, and when the soil is good one hundred pounds have been known to act beneficially. It has mostly been applied to the wheat crop, yet I have seen it applied to young corn with great benefit after it has been worked the first time. About one hundred pounds to the acre, strewed each side of the young corn, the plough following immediately after the application, throwing the dirt to the corn, and thereby covering the guano, at once gives it a start in growing. In my immediate neighborhood upon poor forest lands corn has been made equal to that on river bottoms in this manner.

Bone Dust.—This manure, composed as it is, of 50 per cent. of the phosphate of lime and 44 per cent. of gelatinous matter, which is easily decomposed in the soil and converted into manure, cannot fail in producing important effects in the process of "improving and enriching poor land." From the very large quantity of cartilaginous matter contained in bone dust, it may be considered both a mineral and a nutritive manure, and to comprise within itself much that is necessary to impart fertility to the soil. The finer bones are ground, the sooner do they yield up their fertilizing properties to the land. In sandy loams they act more efficiently than upon stiff soils, as the porosity of the earth offers less obstruction to the influences of the sun and air in securing the degree of heat and moisture always necessary to carry on decomposition and prepare them to give up their mineral and animal properties to the wants of the growing plants. From twelve to fifteen bushels of bone dust are a sufficient application for an acre of land, but a combination of bone dust with sulphuric acid, ashes and wood mould, is usually recommended and preferred, as by such combinations it adds still more of the valuable constituents to the soil. The great difficulty of procuring bones unadulterated, (as they are frequently boiled in the glue factories before being ground, by which process they lose much of their nutritive and fertilizing qualities, together with the high cost at which they are obtained,) renders their application doubtful, as guano in supplying the phosphates, could be substituted in their place at a more reasonable cost, and with almost equal advantage.

Having described some of the inorganic, or mineral agents, which a productive soil must contain in quantity and variety suited to the wants of the peculiar species of plants, it becomes necessary to mention some of the organic agents, or vegetable and animal substances, which by their economical use the land may be made a contributor to its own restoration and to the maintenance and increase of its own fertility. And the first I shall mention is

Clover.—This grass belongs to the leguminous class of plants, and derives a large portion of its nourishment from the atmosphere, and when as-

sisted by plaster derives a still greater portion than it could if left unaided by this mineral, whose peculiar province it is to attract nitrogenous matter from the atmosphere, thus increasing the growth of this fertilizing grass. No land can be preserved in a condition of fertility unless the system of culture observed embraces clover, for it benefits the land by its shade while growing, as well as by the valuable matter it contains when turned under by the plough. Without clover it is impossible to carry on economically a progressive state of improvement, but with clover and lime, marl or ashes, any soil capable of growing it may be brought to a most desirable state of fertility. Without clover or other grasses lime confers but temporary benefit, as it must have the materials to work up into manure, and these can only be secured to the soil by a liberal cultivation of clover or other grasses. There are but few, if any, farms which supply a sufficient quantity of vegetable and animal manures through the ordinary process of accumulation to counteract the exhaustion of the soil, consequent upon the annual removal of crops. My preference has long been given to clover as the cheapest means of supplying this deficiency, being the best of all the grasses for the purposes of food for stock, as well as for the improvement of the soil, and in conjunction with lime, marl or ashes, it forms a sure basis upon which rests the solid improvement of land.

Peas.—The use of peas for the improvement of land is extensively used by farmers, especially upon light soils where clover does not flourish. Peas bear many branches and a luxuriant foliage, which qualify them to absorb the fertilizing gases of the air, and hence when turned under in a green state, will restore to the earth not only all they have gained from it, but all they have extracted from the atmosphere. The ploughing in of green vegetable matter on the spot where it have grown may be followed successfully as a method of manuring and enriching all lands where other manures are less abundant. It is in the tide water region of our State practised by some of the most successful and scientific farmers, who have adopted it in their regular system of rotation for the purpose of manuring for the wheat crop. There are two modes adopted in sowing peas, especially after an application of lime or marl. The first mode is to fallow up the land in the spring of the year, and about the last of May or first of June sow a bushel of either Clay, black or Shinney peas to the acre and rake them in the land, and in the month of September plough them in the land in the green state for the benefit of the wheat crop. The other, and more extensively used mode, is to sow the peas in the corn fields while working the corn the last time, (say from the 25th of June to the 10th of July.) They are sown as soon as the corn is worked and cultivators or rakes follow, which both cover the pea and prepare the land for the better growth of the corn, and in the fall they are turned in with the wheat. The turning in of green crops demands the attention of all farmers desirous of "improving and enriching poor land," as they impart to the land all they have drawn from the earth and atmosphere, and, of course, increase organic matter in the soil.

Wheat Straw.—This is a most valuable manure, and one not sufficiently attended to by the farmer. Where large crops of wheat are made and the whole of the straw cannot be carried through the stables and cattle yards, what remains is often left for years to decay, and thereby lose much of the valuable properties contained in it before it is applied

to the land. It is within the scope of my recollection when straw was but slightly regarded by the farmer, and frequently sold or given away from the farm, and never used unless it had undergone a process of decomposition; but there is now an adage frequently used, "that the farmer who sells straw becomes poor, but he who buys it becomes rich." An experience in the use of straw for a number of years induces me to believe that applied upon clover fields the year previous to their cultivation it will greatly enhance the value of the crops and land. Wheat straw contains all the inorganic matter required for its production, with the exception of what has been required for the grain, as well as a large portion of the vegetable matter contained in its structure; it therefore follows if it is returned to the earth it must impart all the valuable substances it contains back to the soil. If straw is applied and remains upon the land until ploughed, its benefit will be great from the shade it imparts, and when ploughed in, decomposition takes place, which, of course, promotes an increase of production, as well as improvement to the land.

Barn Yard and Stable Manures.—This is the main stay of the farmer, and he who does not act upon the principle that the accumulation of manure is the business of his calling will find, to his sorrow, that before he can calculate upon success he must make it the first article of his faith. The barn yard may be called the farmer's *laboratory*, from which he may draw his supplies for the improvement of his land, and he should have a constant eye to the accumulation of not only all the offal from his stock, but all the decaying vegetable matter from his farm. When his barn yard and stables fail to afford him supplies he should go to the woods, to the ditches, to the marshes and the fence corners, cart and wagon the resources there to be found into the cattle yard, spread them and strew plaster over the surface, and the excrement and the liquid voidings from the stock will convert these substances into good manure. The greatest negligence prevails amongst farmers in relation to the manner in which they attend to their barn yard and stable manures, for how frequently can it be seen that the location of the yards are upon hill sides, and the manure when saturated with water, running down to an adjacent stream, by which process they lose one-half of their value; or if not thus wasted, the evaporation which is constantly going on in the nutritive portions of manure is almost equally as great, which, if saved by proper arrangements, would render the manure doubly efficacious. To prevent the evaporation of the valuable properties of manure, plaster should be used as suggested in the foregoing part of this essay. The mixture of plaster with manure fixes the ammonia in like manner as it does in guano. There is nothing which the farmer can use so judiciously as plaster over the manure heap. It is essential in well regulated and ventilated stables and cow sheds in preserving the health as well as the eyes of the animals from the exhalations of the noxious, if not poisonous gases, which are constantly escaping from the manures. Much could be added upon this important subject, but this essay having already transcended the limits intended for it, I shall conclude with advising a *more careful accumulation and preservation of barn yard and stable manures.*

III. ROTATION OF CROPS AND DIVISION OF LAND.

The true secret of all successful agriculture is

to draw from the soil to its utmost capacity of production, consistent with its uniform and progressive improvement. How to arrive at this knowledge is the great desideratum, and has by successful agriculturists been only obtained by a judicious system of rotation of crops. This important and essential aid to agricultural success is but little understood, or if understood, but little practised in Virginia. Necessity, "the mother of inventions," has induced some of the farmers to attempt some rotation by which the capacity of their lands might be improved by following one species of crops by a different one, and substituting some green crop for improvement between the different crops for profit. In many sections of the country it is imagined that the only condition of a rotation is that the same plant be not cultivated annually and that a succession of corn, wheat, oats, &c. is as much a system of rotation as any other plan—but the true object to be desired in all rotations is, to ascertain how far it will economize the manure in the soil, or what may be added artificially, and thus the greatest amount of production secured. Most scientific writers upon agriculture agree that the three following rules are the true principles upon which every system of rotation of crops should be based:

1st. That each plant requires a particular food and should, therefore, be repeated at as long intervals as possible.

2d. That seed crops, being particularly exhausting, are to be interchanged with green or forage crops and roots.

3d. That plants which require hoe tillage, being cleaning crops, should follow those which are sown broadcast and encourage weeds.

These rules I believe are tenable, and should be kept in view in every system of rotation. Stimulated by example and the march of improvement, a number of farmers have abandoned the old three shift rotation of corn, wheat and grazing, and have adopted the more modern five shift rotation.—There are many who have signalized themselves in this respect, and of whom it may almost emphatically be said they have changed "the barren waste to the fertile fields," but preëminent among those who have accomplished this desirable object is Edmund Ruffin, whose name and fame are identified with the improved agriculture of Virginia. He has, in a recent communication to the Executive Committee of the Virginia State Agricultural Society, given an interesting account of the different systems of rotation in Virginia. The one most approved of by him is the six shift rotation which he has adopted, and to which I refer all who are desirous of having more instruction on this important subject. The rotation which is now most generally practised is the five shift rotation, with peas broadcast with the crop of corn. This rotation consists of having two fields in wheat and one in corn. Thus:

1st year. Corn, with peas broadcast in the growing corn, to be fallowed in with the wheat.

2d year. Wheat.

3d year. Clover.

4th year. Wheat on clover fallow.

5th year. Rest, with partial grazing.

This rotation, of course, requires that land be divided in five equal parts, separated by fences, or not, to suit the convenience of the proprietor.

With a proper rotation of crops, our own resources of fertility and the aids now brought within our reach, we shall no longer suffer the reproach of poverty and sterility, which has so long been

applied to our State. With the application of proper energies and proper principles to our agriculture, we can make Virginia the garden spot of the world, and preserve the rising generation from raising the cry of "*Westward, Ho!*"

In submitting this essay to the Virginia State Agricultural Society I have not attempted the introduction of any new truths or elucidation of any new principle, but those which I have submitted are the result of my observations and experience, aided by the suggestions of others. I doubt not they will be more clearly illustrated by others who may submit their views upon this important subject to the Society; yet notwithstanding their many imperfections, they are respectfully submitted to the consideration of the Society.

For the Southern Planter.

ESSAYS ON AGRICULTURE.

NUMBER I.

Mr. Editor.—By your permission I propose to furnish your readers with a few communications on agriculture, the result of some experiments, &c.

There are two important questions upon the subject of agriculture, than which, perhaps, there is none of more utility. They are these: What was originally good soil? and what is necessary to restore it to its original state after it has been exhausted? The consideration of these questions will occupy a few pages.

1. *Good Soil in its original state.*—The whole earth may be considered as one vast compost heap, composed of various substances. This compost heap is composed of mineral and vegetable matter, and is so arranged as to produce the materials for the support of animals. The Creator so arranged the soil that it should produce various plants, and that these plants should return their refuse matter to the earth again, in order to keep up its original fertility. But man has disarranged this order; he has taken crop after crop, and returned nothing, until he has reduced rich land to barrenness. If this be so, what must be done? The answer is obvious. Restore to the soil the exhausted ingredients. We say exhausted ingredients, because it is rarely the case, perhaps never, that *all* the elements of a good soil are wanting. But to produce this restoration we must know what a fertile soil is; in other words, the materials of which it is composed. The following enter into the composition of soil without manure: Organic matter 97 parts out of 1000, silica (sand) 648, alumina 57, lime 59, magnesia 8, oxide of iron 61, oxide of manganese 1, potash 2, soda 4, chlorine 2, sulphuric acid 2, phosphoric acid 4, carbonic acid 40. Now let us compare this with barren soil. It contains organic matter 40, silica 778, alumina 91, lime 4, magnesia 1, oxide of iron 81, oxide of manganese a trace, potash *none*, soda *none*, carbonic acid *none*. Now it will be seen from this contrast that barren soil lacks more than one-half organic matter, and where there should be 59 of lime it has only 4, (a deficiency of 55,) and where there should be magnesia 8 there is only 1. This is a great deficiency. But of other important matters there is none—potash, soda, chlorine, sulphuric acid, phosphoric acid, carbonic acid, all important ingredients, *entirely* wanting. Where all these ingredients exist in due proportion there is good soil, and where they become less the soil is less productive, and

when exhausted we have a barren soil. But suppose the silica remain at 648, whilst there is an exhaustion of phosphorus, potash, lime, organic matter, &c., still the soil is exhausted.

Now if we will have the soil analyzed we will be able to determine scientifically what it needs. In other words, (as Davey explains it,) according to "refined common sense" we will know what our land needs. We would urge upon all farmers with poor lands, to have them analyzed. But are there no means of ascertaining the constituents of soil, apart from analysis, and consequently their defects when exhausted? Yes, to a *considerable* extent. It is to ascertain what substances enter into the composition of the various crops raised. If a certain piece of land brought good crops, and now brings none, it follows that the crops have taken away the materials to produce them. Now if we know what these crops were composed of, then we can put the same thing into the soil, and restore it to its original productiveness. This is a practical fact, with which every farmer ought to be acquainted. Another important matter is, to know the composition of the natural growth of the land. Take land well set with well grown oak, hickory, sugar tree, poplar, dogwood, &c., and you have land that will bring good corn, wheat, rye, oats, tobacco, &c. Now exhaust this land by excessive cropping, and it will grow up in old field pine, and they will be succeeded in years by oak, hickory, &c. Now this land will bring grain again. It is restored. Nature thus gives us an important idea. It teaches clearly that if we will return to the soil the ingredients contained in the primary growth we will restore the land to its original fertility. But to do this we must know what these ingredients are. A knowledge of these matters, in our judgment, constitutes the great secret of making the land rich and keeping it so. We shall place before the reader the inorganic and organic matters contained in the most important vegetables of the natural growth, as well as cultivated plants. And whilst we claim no originality, but write the substance of what we have learned from various chemical and agricultural authors, yet we shall adopt our own way of communicating what we have to say.

The following will show the amount of inorganic substances contained in several kinds of trees:

| | Wood. | Leaves. |
|-----------------|-------|---------|
| Willow, - - - | 0.45 | 8.23 |
| Elm, - - - | 1.88 | 11.8 |
| Poplar, - - - | 1.98 | 9.22 |
| Beach, - - - | 0.36 | 6.69 |
| Oak, - - - | 0.21 | 4.5 |
| Birch, - - - | 0.34 | 5.0 |
| Pitch pine, - - | 0.25 | 3.15 |

Now let us see the amount of inorganic matter contained in our commonly cultivated plants. According to the analysis of Sprengel, as quoted by Professor Johnson, we have the following:

| Grain of | Per cent. | Straw of | Per cent. |
|--------------|-----------|--------------|-----------|
| Wheat, | 1.18 | Wheat, | 3.51 |
| Rye, | 1.4 | Rye, | 2.79 |
| Barley, | 2.35 | Barley, | 5.24 |
| Oats, | 2.58 | Oats, | 5.75 |
| Field beans, | 2.14 | Field beans, | 3.12 |
| Peas, | 2.46 | Peas, | 4.47 |

Now if the reader will examine these tables he will find that the cultivated crops take a much larger amount of inorganic matter from the soil than forest trees, and that the straw of the former contains more than the grain, as well as the leaves

of the latter more than the wood. And whilst the trees generously return the leaves to mother earth our forefathers returned *nothing*. Could we expect any thing else than exhausted land? And is it not evident that if we return the ingredients extracted the land will be renovated.

But it is not enough to know that plants contain inorganic matter without knowing what they are. They are the following:

| | | |
|------------|-------------|------------|
| Chlorine, | Phosphorus, | Potassium, |
| Sulphur, | Aluminum, | Sodium, |
| Calcium, | Iron, | |
| Magnesium, | Manganese, | |
| Silicon, | | |

These substances are combined with others, and some times among themselves. Chlorine forms *chlorides*, iodine forms *iodides*, as the iodide of potassa; sulphur forms with hydrogen gas, sulphuretted hydrogen, and with oxygen sulphuric acid. Phosphorus forms with hydrogen, phosphuretted hydrogen, and with oxygen phosphoric acid. Potassium forms with oxygen potassa, commonly called potash, and with chlorine the chloride and chlorate of potash. Sodium forms with oxygen soda, with carbonic acid the carbonate and bicarbonate of soda, and with chlorine common table salt. Calcium forms with oxygen quick lime, with sulphuric acid plaster of Paris, or sulphate of lime, with muriatic acid muriate of lime, with carbonic acid carbonate of lime, with nitric acid nitrate of lime, &c. Aluminum forms with oxygen alumina; silicon forms silica, or sand; iron forms oxides of iron; magnesium forms magnesia. The above are the principal *mineral* constituents of plants. To these we must add the following non-metallic elements: oxygen, hydrogen, carbon and nitrogen. In our next we shall show the amount of these ingredients entering into the composition of cultivated crops.

WM. H. H., M. D.

For the Southern Planter.

DIGESTED OR UNDIGESTED STRAW.

Mr. Editor,—Without meaning to depreciate the able address of Mr. Edmunds, or the excellent criticism on some of his positions, by F. B. Watkins, in the last number of the Planter, I will venture to suggest, in regard to the principal point of difference between these gentlemen, viz. the comparative value of digested and undigested straw, that it is not "worth a straw" to the practical farmer, in which way it is decided; at all events, to him who has a due regard to the general improvement of his land and the good condition of his stock. I know that a great deal has been said and written upon the subject, but I really do not think, with all deference, that the play has been worth the candle. Simple as the question is, it is narrowed down among plain practical farmers to a still simpler form, viz. whether it is expedient to keep cattle enough to eat up *all* the straw in order to make manure. And many a farm have you and I seen, Mr. Editor, where the appearance of the land and the stock afford abundant proof of the absurdity of pursuing such a system. In determining the number of stock which it is desirable to keep, I conceive that the very least of all considerations bearing upon the question is that under discussion, indeed, I make bold to say, it is an item which should not enter into the calculation at all. My

view of the whole subject is simply and briefly this: first, how many oxen are required for the work of the farm, and how many cows for the dairy? That point being settled, if it be desired to fatten cattle for market, I would inquire how many can be *grazed*, without detriment to the land? And if the land be in that condition which makes it important to graze it, and trample it, then how many are required for *that* object? By some such mode of reasoning, the question being settled, how much stock should be maintained upon the farm, all will admit that these must be fed, and fed well, with all the straw they can eat, and something better than straw if it is to be had; and that all the residue of the straw, or so much as is necessary, be put under their feet as a receptacle for the manure—for surely the most ardent advocate of the *undigested* theory would not consider the value of the straw impaired by its being saturated with the voidings of stock. I do not think I am acquainted with a farm in this portion of the State where the amount of straw will not feed in the winter (such a feeding as it is) double or treble the number of stock which can be supported in the summer, without great injury to the land. What matters it then, whether a cow furnishes you with an amount of manure of greater value than the straw she eats, if she is to help herself to double pay from the very life-blood of your lands in the summer? The question of “wintering” a neighbor’s stock (he should be a very near neighbor, or his cattle would rarely get back to him without a good bite of grass to sustain them,) is of such rare occurrence that it is of no moment to the matter in hand; but I shall never believe that it is any more profitable to feed a cow for her manure than it is to feed a horse, until I see more satisfactory proof of it than has yet been presented to me. The number of a farmer’s stock then, being regulated without the smallest reference to his crop of straw, let him feed them as well as possible, *make* and *save* by every means, all the manure he can from them. “Them’s my sentiments,” though they may not be worth a corner in your paper.

Very truly yours,

G. F. H.

From the Horticulturist.

MANAGEMENT OF SMALL GARDENS.

One of the finest features in the country towns of America, is that almost every dwelling has its garden—small in many cases it may be, but still a garden, and capable of yielding many of the comforts and pleasures of gardening. The most active improvers of our day, the men who are really doing most for the diffusion of a taste for gardening, are the residents of country towns and villages, with their acre, half acre and even quarter acre lots. Taking this view of the subject, we naturally regard the management of small gardens with much interest, and therefore propose, now and hereafter, to offer a few hints, in order, if possible, to establish more correct views in regard to the principles which should regulate their formation and treatment.

From pretty extensive observation, we have come to the conclusion that one of the most serious and prevalent errors in the management of small gardens, is *attempting too much*. This grows very naturally out of the desire that almost every man feels, to gather around his residence the greatest possible variety of interesting scenes and objects; in other words, to make the most of his limited space. In laying out a garden, the design may be good, and it may, in the first place, be properly executed; but no sooner is this done than new trees or plants are fancied, and probably a neighbor’s garden suggests some new walk or divisions—and thus one little alteration after another is introduced, until the original plan is effaced, and the whole becomes a piece of patchwork. We have seen many charming little front gardens utterly ruined in this way. Now, the beauty of a small garden, and the pleasure it may afford, lies not in a variety of embellishments, but in *simplicity* and *high keeping*—few walks and few trees.

Numerous walks destroy the unity and extent of a small piece of ground, and add very materially to the cost of keeping; and as a regular gardener is seldom employed in such places, the walks become neglected, and grown over with grass and weeds, resembling more a cattle path than any thing else. The principle, therefore, should be rigidly adhered to, of having only such walks as are absolutely indispensable, and these to be kept in the best order. A good, well kept walk, is not only a great beauty, but a great comfort, whereas nothing is so useless and ill-looking as a bad or neglected one. In most cases a single walk, and that a foot walk, six or eight feet wide, in proportion to the extent of the ground, will be quite enough.

The position of the entrance gate and the course of the walk must be determined by the shape of the grounds and the situation of the front door of the dwelling. If the space between the house and the street be narrow—say twenty or thirty feet—and the front door be in the centre of the building, the most convenient, and probably the best arrangement, is the common one—having the gate opposite the door, and the walk straight. It would be much better if houses of this kind were so constructed as to have the main entrance at one side, so that the ground in front of the principal rooms might be kept in a lawn, embellished with a few appropriate trees. This would be a more agreeable sight from the windows than a gravel walk, and persons approaching the house would not be directly in front of the windows. When the house stands back a sufficient distance, even

if the front door be in the centre facing the street, the walk should approach it by as easy curves as possible from one side, leaving the ground in front unbroken. A curved walk, however, is not only inconvenient, but obviously inconsistent, in a very limited space.

Box, and all other kinds of edgings, to walks that run through grass plots, are not only out of place, but add greatly to the expense of planting and keeping. Such things are only appropriate in flower gardens, to mark the outlines of walks and beds. Hedges of privet, red cedar or arbor vitæ, are occasionally planted along the edges of walks, but are entirely superfluous, and have a bad effect, unless to screen a wagon road to out-buildings, or to separate a front garden or lawn from the kitchen garden, or such objects as it may be desirable to conceal. Such hedges have also a very good effect when placed immediately behind a low open front fence, forming, in that case, a back ground to the lawn, when viewed from the dwelling.

Planting, in most of our small gardens, is carried to such an excess, as to convert them into miniature forests. There must be the universal row of horse chestnuts, or something else, within the fence; and then the interior is dotted over closely with all manner of shrubs and plants. A corner is probably cut up into something like a child's flower garden; small beds filled with tall, straggling plants, lying over the box edgings, covering the walks, and giving to the whole a neglected and confused appearance. Such management displays no taste, and gives no satisfaction.

We would discard these straight rows of trees, and convert the whole surface into as perfect a piece of lawn as could be made. This we would embellish with a few, very few, appropriate trees, mostly evergreens, having as great a variety among them as possible, both in regard to habit of growth and tint of foliage. The smallest plot, managed on this principle, may be made beautiful. A single tree, such as a Norway spruce, a deodar cedar, a hemlock spruce, or any other fine evergreen—or even a deciduous tree, such as a magnolia, a tulip tree, a linden, horse chestnut or mountain ash—standing on a lawn, having ample space on all sides to develop its fair, natural habits and proportions, is always a beautiful object, and cannot fail, though a common tree, to attract attention and admiration; but plant three or four, or half a dozen such trees where one should be, or crowd up the one with under-shrubs and other objects, and you at once destroy the character and expression of the tree, and produce a confused mass that cannot fail

to be disagreeable to every one whose taste has been even slightly cultivated.

Few people seem to appreciate fully the beauty of a piece of lawn—a beauty which is at once cheap and permanent. Most of us desire to be economical; but what economy is there in cutting up small gardens into walks, flower borders and beds, and in planting them all over with trees and plants? These walks and borders need constant care, or they soon become unsightly; they need a constant succession of flowering plants to keep up a display. The culture of flowers along borders and among trees, is never successful or satisfactory. They must have a place allotted to themselves, where they can be tastefully grouped, and receive proper attention. A very important point is the selection of suitable trees for small gardens. We very often see trees of the largest class planted where there is no room for them, simply because such trees are planted in every garden. The little front gardens of street houses in some of the English towns, delight every one who sees them, by the appropriateness of their arrangement and ornaments.

A spot of bright green lawn, garnished with two or three laurels or rhododendrons, and some climbing roses or honey-suckles around the windows, and these all glittering with high polish, like a new coin from the mint—no cutting up into all manner of misshaped beds and borders, no entangled masses of trees and plants. We hope this matter will be considered, for a reform is great needed. We shall have more to say on the subject hereafter.

THE GAME FOWL.

We take the following interesting article from a work lately published in England, entitled "The Poultry Book:"

Game Fowls as a Stock for Profit.—From the numbers of game birds, of greater or less purity of blood, that are seen in the farm-yards of this country, it is evident that, in an economical point of view, they must be favorably regarded by many who pay but little attention to form and feather. Now, there is probably a general acquiescence in the common idea of the ever quarrelsome disposition and pugnacious habits of this bird that greatly prejudices its claim to the poultry yard; but those who have studied it most carefully will confirm our opinion that, his rule once recognized, the thorough-bred game cock is not justly liable to such objections. Competitors, it is true, he will not brook; but if, after the preliminary trial of strength, precedence is allowed him, (and few of other varieties will long contest

it,) he manifests nothing of a vindictive spirit, and is easily induced to allow the companionship of other cocks in a subordinate position. The dunghill and other birds—the Hamburg in particular—will renew their combats day by day, and the victor of one hour is often the fugitive of another. But with game fowls the cock of the walk claims and receives general homage; and not only abstains himself from these scenes of strife, but insists that his companions also shall exhibit the same peaceable demeanor. The younger birds, it is true, do not always settle among themselves who is the best man; but woe betide them if their appeals to arms are witnessed by their senior.

In suitable localities game fowls are kept at very small cost; for when indulged with a good grass walk, a little corn, morning and evening, is found sufficient to keep them in good order; they are thus well suited to the farmer's present system of poultry-keeping; for after ten weeks or three months old, the greater part of their food is procured abroad, and their owners' corn but sparingly required. Yet, kill a game fowl when you will, it is always in good condition; and thus, where fowls are not put up to feed, they afford a ready supply whenever they may be wanted.

Mr. Roscoe tells that game chickens at five months old, if well fed, should weigh [dressed] 5 lbs. the couple. This supposes good feeding and attention while young, and a good run so soon as they are able to profit by it. There certainly can be no question of the superiority of such birds as dead poultry, over the stuffed and crammed tenants of feeding coops; they truss capitally, and their plump, full breast will bear comparison with any occupants of the poulterer's counter.

If any of our readers should desire the *ne plus ultra* of excellence in a fowl, let him eat and pronounce his opinion on the wing of a well-fed game pullet, and we would have no fear of his disagreeing with this expression of our judgment on the good qualities of these birds for the table. A celebrated physician at Liverpool once declared his conviction that there was more nutriment in one of Knowsley [Derby] game fowls than in the largest capon that the London market could possibly produce.

As Exhibition Birds.—The Birmingham exhibition of 1852, contained the best collection of game fowls that probably were ever collected together at one time in one place. Continuous wet weather had greatly marred the beauty of most of the classes on that occasion; but the vigor and hardihood of the game seemed to have carried them well through what had evidently proved so severe a trial to many

of their neighbors. A game fowl, too, steps out of his basket, after a journey by sea or land—which would test most severely other fowls—as unconcerned and apparently as indifferent to fatigue as if brought from his walk but half an hour previously.

Diseases.—When we come to speak of diseases peculiar to game fowls, our readers' patience need not be severely tested, for of all fowls none appear more exempt from the usual maladies of the poultry-yard, either as chickens, or in their more matured state; and even when attacked, their great constitutional strength generally carries them through their maladies with few casualties. They require, like other chickens, to be watched when feathering, and distemper to be guarded against by careful housing and protection from wet, administering their food in small quantities, not less than three or four times daily.

From the Boston Cultivator.

CULTURE AND MANAGEMENT OF TOBACCO IN CONNECTICUT.

To persons who have not given some attention to the culture of tobacco in New England, it may seem strange that the crop should be here regarded of so much importance as to justify the publication of an article under this head. But if we look at the census returns of 1850, we shall find that the amount of the crop in Connecticut and Massachusetts is by no means trifling. The total product for the United States is put down at 199,739,746 lbs., of which Connecticut produces 1,267,624 lbs. and Massachusetts 138,346 lbs., making an aggregate for these two States of 1,406,070 lbs., which was probably worth to the producers, \$140,607. When we consider that nearly the whole of the latter amount was produced in a small district along the Connecticut river, and that it furnishes this (or a greater) annual income to a few cultivators, the details relating to the management of the crop cannot be uninteresting.

In a late visit to the residence of Paoli Lathrop, Esq., South Hadley Falls, we obtained from him much information in regard to this subject. Mr. L. has been for several years engaged in the tobacco culture, in which he has been highly successful, and as the entire management of the crop is under his immediate supervision, the particulars which we furnish may be fully relied on.

The seed is sown as early as the state of ground will admit, on a moist, rich soil, prepared as for a bed in the garden. It is scattered broadcast at the rate of a table-spoonful

to the rod. The ground is then rolled or trodden hard. This is preferable to raking the seed in, as when it is buried, even with a rake only, much of it does not come up. Mr. L. would prefer burning brush on the ground before sowing the seed, if the material could be conveniently procured, as the heat destroys most of the seeds of weeds that are near the surface, and the ground is left clean for the tobacco. The transplanting is done from the 25th of June to the 4th of July. The plants are set in a warm, deep, mellow soil, in rows three feet and four inches apart, and at intervals of two and a half feet in the rows. Vacancies that occur from the death of the plants, are immediately filled. The plants are attacked by the ordinary cut-worm, the best security against which is to have the plants large and thrifty at the time of setting. The ground is kept clean and light by the use of the hoe and the cultivator—the latter being usually passed between the rows four times, the two first in connection with the hoe, which is not, commonly, required afterwards.

The tobacco worm is the most formidable enemy to the crop. It attacks it about the time of the second hoeing, and it is necessary to look the plants over, carefully, and kill the worms, two or three times a week till the crop is cut. The plants are left to grow till they are as much as possible into blossom without forming seed. The tops of all plants which are in a proper state, are then broken down to a good sized leaf. In two to three weeks after this operation, it is ready to cut. Before it is cut, all suckers are broken off. It is cut in a fair day, and allowed to wilt to such a degree that it can be handled, but not so as to burn by the sun, which would injure it as much as a frost. It is sometimes cut in the afternoon and left on the ground till the dew is off next morning. It is then taken up and hung immediately in the drying-sheds, which (Mr. L.'s) are made in bents of twelve feet square and five feet one above another. Each bent has from seven to eight poles, on which the tobacco is hung—two stalks being attached by twine across the poles—thirteen pair to each pole. The building is made with doors all round the sides, so that the admission of air can be nicely regulated.

The time which the tobacco is allowed to hang, depends on the weather—it must not be taken down till it is perfectly cured, which can readily be told by a practiced eye. It should be taken down in a damp day, the leaves stripped from the stalks, sorted into two kinds—wrappers and fillers—the tobacco being wholly used for cigars. The leaves are tied in "hands" of

three-quarters of a pound each. It is then ready for sale. The article is well known in the New York market under the name of Connecticut seed-leaf tobacco, and it brings a higher price than any other grown in this country.

The average yield usually obtained to the acre, is about 1600 pounds. Mr. Lathrop frequently obtains a ton to the acre. It brings at home from \$8 to \$16 a hundred. Mr. L.'s crop for the last two years, has averaged a return of \$280 per acre.

This tobacco is not used till it is a year old. It goes through a "box sweat" in the following March after it has been packed. Some of it is used for the home manufacture of cigars, and some is exported. Most of it is sent to Germany; some goes to Cuba, where it is made into "Spanish" cigars and sent back and sold to the American smokers.

As to the comparative cost of the crop, Mr. Lathrop thinks it is about as much expense to raise tobacco at the rate of 2000 lbs. to the acre, as to raise corn at the rate of 50 bushels to the acre. He would not advise going into the business on a large scale, without some person acquainted with the details of management.

Contrary to what is experienced under the culture of tobacco in Maryland, Virginia, and other States, it is not, in the Connecticut valley, an exhausting crop. Mr. Lathrop's mode of preparing the ground, is to put on ten cords of ordinary barn manure to the acre. The previous crop may have been either clover or corn or potatoes. Tobacco is usually continued three years on the same ground, but for the last two years only six cords of manure to the acre are used each year. Under this course, the soil is greatly improved. It is generally admirably fitted for wheat, except that it is sometimes made too rich. It leaves the soil remarkably clean from weeds. The tobacco stalks, after the leaves have been picked off, are spread in the fall over winter grain, for which they are an excellent manure.

Cheap, temporary structures are often used for drying tobacco. But Mr. Lathrop's building is 72 feet long and 36 wide, with posts 15 feet high, and holds about three tons. It is well finished, and cost a little over \$500.

TO MAKE GOOD STARCH FOR BOSOMS AND COLLARS.—Take one tea-spoonful of starch for every shirt, dissolve in cold water and set it over the fire to boil, stirring carefully all the time to prevent burning; let it boil gently fifteen minutes, then take it from the fire and strain through a piece of muslin, and to every four shirts allow a piece of sperm as large as a common sized pea, and the same quantity of white wax; boil these in the starch fifteen minutes; dip the articles into the starch

while hot, wring them and hang them by the fire to dry. When dry, sprinkle them quite wet and roll them very tight for an hour or two, and then they are ready for ironing. Your iron must be very smooth, entirely free from rust or dirt of any kind; rub hard and quick until every part of the bosom or collar is perfectly dry.—*Ohio Farmer.*

From the Germantown Telegraph.

IMPORTANT IMPROVEMENT AND ECONOMY IN THE MANUFACTURE OF FLOUR.

A recent English paper contains a detailed account of a remarkable invention, which is likely to effect a complete revolution in the manufacture of flour. The invention was, in its imperfect and unfinished state, exhibited at the World's Fair in London, and having now been completed, is rapidly coming into use in England, France, Austria and Mexico. The flour ground by the mills formed upon the model of this invention is preferred by the bakers who have tried it, to all other flour which they had previously used, as it is more nutritious and more apt to rise easily and certainly than any other.

It was stated, by a committee of the House of Parliament, that by this invention 81,857,120 quartern loaves, in addition to those which are now made from the same quantity of wheat, would be produced, giving a clear saving of upwards of £2,000,000 per year. As a machine which effects such astonishing results cannot fail to become of vast importance, we copy from the *Mechanics' Magazine* the following information in relation to it:

"On the 9th of February, a large party of engineering gentlemen, and of others engaged in an extensive way of business, as millers, assembled at the flour mills of the Messrs. Pavitt, High street, Wapping, to witness the performance of two mills constructed by Mr. Middleton, on the principle of Westrup's patent. In the same establishment are seven other mills of the ordinary construction, and the trial of relative merits was between the two conical and the most effective pair of the flat mills. The result proved to be immensely in favor of the conical system; while the quality of the article produced, according to the opinion of experienced bakers, is far superior. The economy of this new system of grinding is found to effect very sensibly the detail of operations both in the mill and in the bake house. In the former it becomes possible to grind up a large portion of farinaceous matter now rejected in the form of bran; that is to exhaust the husk of the clavel more completely, and therefore to yield a larger quantity of pure farina. In the latter, the tedious, but critical duty of watching for

what is technically termed "the sponge," or rising of the dough, is quite superseded. At present, if this be neglected, the dough falls again in the oven, and the bread is sold at a reduced price, which is a serious disadvantage.

Under the conical system of grinding, in consequence of the greater proportion of gluten contained in the mass, the acids do not escape so rapidly and the sponge takes place in the oven.

Upon the whole, there is a large gain to the public, for besides saving in fuel, it is capable of increasing the bread of the people to the value of £2,460,428 a year, which at 6d. per loaf would give them 81,857,120 more quartern loaves a year.

The "conical" mill is intended to obviate the defects of the flat mill, and a very few remarks will suffice to show that its inventor has not only detected their causes, but has brought into operation a most philosophic, and therefore successful, combination of grinding and separating agencies, by which these defects have disappeared to an extent which leaves little to be desired. The beneficial changes effected may be succinctly enumerated. First, the reduction of the weight of the running stone from 14 cwt. to 1½ cwt., by placing it beneath instead of upon the fixed one; second, the reduction of the size of the stones in the proportion of 3.34 to 1; and thirdly, the giving to the stones a new form—that of the frustrum of a cone. The advantage of lessening the diameter and weight of a mass, of which the one is 4 cwt. and the other 14 cwt., will be apparent, when it is considered that its effective velocity is 120 revolutions per minute, and that this velocity must be sustained against the enormous friction of the grinding surfaces. The altered position of the running-stone admits of a much more delicate adjustment of the opposing surfaces, and gives to the miller an easy and effective control over the most important portion of his operation. The conical form facilitates the discharge of the flour, and obviates the clogging and over-heating of the old practice. In addition to advantages, by a judicious modification of the ordinary mode of dressing, or rather by a combination of the mill with the dressing machine, a perfect separation of the flour from the bran is effected at the moment the grist escapes from the stones. The bran still remains in the mill and falls by its own gravity to a second pair of stones in all respects resembling those already described.

Both pairs of stones are mounted on the same spindle, and of course impelled by the same gearing. The operation of the lower pair need not be described; they complete the process,

and leave nothing unconverted into flour which could add either to the weight or the quality of the loaf. In considering this arrangement, we cannot fail to be struck with the analogy subsisting between it and that which we observe in the construction of the jaws of animals—a circumstance which assures us of its philosophical superiority.

There were three trials as regarded the old system and the new. The first experiment on the old mill gave a discharge of 16 lbs. of flour in five minutes, which was equal to 192 lbs. per hour; while upon the patent mill there was a discharge of $38\frac{1}{2}$ lbs. in five minutes, or 462 lbs. per hour. The difference, therefore, on that experiment was against the old system 270 lbs. per hour. The second experiment tried was even more favorable as regarded the new system.

Two conical mills worked against two on the flat principle for one hour, ascertained exactly, and with the following results:

Conical mill (No. 1) produced $8\frac{3}{4}$ bushels.

Conical mill (No. 2) produced $7\frac{3}{4}$ bushels.

Flat mill (No. 1) produced 3 bushels.

Flat mill (No. 2) produced 3 bushels.

From the Journal of the U. S. Agricultural Society.

SQUASHES AND PUMPKINS.

BY THADDEUS WM. HARRIS, HARVARD COLLEGE.

I am now acquainted with ten different kinds of pumpkins and squashes belonging to the same group as the Valparaiso, Cuba and Marrow.

1. The mammoth pumpkin, of Potiron (*Cucurbita maxima*.) The fertile flowers have five stigmas, and the fruit five carpels; having raised it in my own garden during the past summer, I can vouch for the fact.

2. A glaucous or greyish-green pumpkin or squash, more or less turbinated or top-shaped, growing to a large size (three and a half feet or more in circumference,) mistaken by some seedsmen for the mammoth pumpkin. It was raised in my garden in the summer of 1851, and was found to have four or five stigmas and the same number of carpels.

3. Mr. Cole's Connecticut pie-squash or pumpkin. Spherical or spheroidal, three and a half feet in circumference. Raised in my garden in the summer of 1851. Stigmas mostly four; in a few flowers, five. Carpels mostly four; a few of the fruit had five.

4. Elongated Valparaiso squash, tapering very much at each end, striped longitudinally with white. Raised from Valparaiso seed in the summer of 1851, in my garden. Stigmas and carpels five in number.

5. The common ovate Valparaiso I have not raised; but have bought and cut many specimens, in all of which I found four carpels. I have examined the young fruit, growing in grounds of my friends, and found often five carpels.

6. The autumnal marrow, introduced into notice and use by Mr. Ives of Salem. This forms an exception to the general rule in the fruits of this group; having ordinarily only three carpels, and but three stigmas. Four in some rare cases are, however, to be found, as already stated.

7. The Cushaw squash, probably introduced from Louisiana, where it was known and cultivated more than one hundred years ago. It is mentioned by LePage du Pratz, in his *Histoire de la Louisiane*, Vol. II, p. 11, by name of *Giromon en forme de corde-chasse* (hunting horn,) and by the translator of the work by the vernacular name of *Cushaw*. This is a crook-necked squash, with permanent nipple-formed style, and stem like that of the marrow. It has only three carpels, at least I found but three in the few specimens that grew in my garden in 1852. It is so tender and delicate that it rots in our climate before it becomes fully ripe.

8. The Acorn-squash, evidently nothing but a variety of the one called by French writers *Le Pepon turban* (*Cucurbita piliiformis* of Duchesne.) Fine specimens were raised in my garden in the summer of 1851. It is the heaviest squash of its size that is known to me, and one of the best flavored. Flowers mostly with five stigmas, some with four; carpels five or four.

9. Mr. Stetson's Cuba squash. Though I have not yet cut it, I am convinced from its external characters that it must contain five carpels.

10. Mr. Dunn's round rough-skinned pumpkin or squash, weighing one hundred and fifty pounds, which was exhibited at the annual Horticultural Exhibition. This probably had five carpels—if its external characters are to be relied upon.

In the same group are to be placed Mr. Hyde's Coquimbe squash, and Mr. Pope's California squash, which were exhibited last September. The number of carpels in those is unknown to me, not having seen them cut. Probably in both will be found more than three carpels.

I have enumerated these kinds in order to show that the group, characterized by me, has been established upon personal examination and dissection of most of the known varieties; and that the character of five or four stigmas and

the same number of carpels (rarely three) is one which prevails in this group.

Heretofore it has generally been understood, and is so stated by most botanists, that pumpkins and squashes were originally natives of Asia. On the contrary, I find in ancient works abundant evidence that they were unknown in the Eastern Hemisphere before the discovery of America, and that they were originally natives of the tropical and warm parts of America, and that they were extensively cultivated by the native Indians from Canada to Chili, before any European settlements were made on this Continent.

After a very careful examination of the plants and the fruits of as many kinds as I could obtain or raise, I have discovered certain distinguishing characters which will enable us to class all of them in three natural groups. These are,

1st. Summer squashes—such as the broad scalloped, the long and warted, the round or orange, the variegated or gourd-squashes, and various other kinds. Most of these (but not all) have upright vines which do not run, (hence sometimes called bush-squashes,) and small or feeble tendrils or claspers. Their leaves are very rough, and mostly five lobed (like a grape vine leaf.) The fruit when cut across is found generally to have five double rows of seeds; more rarely, only three double rows. The fruit-stem is enlarged next the fruit, and is deeply five-furrowed and five-angled. The fruit (which ripens early) is fit to be eaten only in an unripe state, or while it still remains tender. When fully ripe, the rind becomes whitish or pale, hard and brittle, like a gourd-shell,* and the pulp is dry and spongy. The seeds are small and thin, and of grayish or dirty yellowish color.

2d. Pumpkins and winter squashes—including our common New England field pumpkins, the crook-necked squashes, the custard squash, and many other kinds. All these have running vines, with strong branched tendrils or claspers, very rough more or less deeply five lobed leaves, and a five furrowed and five angled fruit-stem, which is very much enlarged towards the fruit. On being cut across, the fruit is found to have only three double rows of seeds. The fruit is fit to be eaten only when fully ripe, and it may be kept, with care, all winter. It does not dry up like summer squashes, but finally rots and becomes soft and spoiled throughout. The rind, mostly thin and tender, never becomes dry, woody and brittle; and the pulp remains fleshy and succulent till it decays. The seeds are larger than those of summer squashes, but are also thin and grayish or yellowish.

3d. Nippled pumpkins and squashes—such

as the mammoth pumpkin or potiron, your Cuba squashes, Valparaiso squashes, the acorn squash, the autumnal marrow squash, and some others. All these have running or climbing vines, with strong branched tendrils. The leaves are rather soft, some of them as soft and velvety as those of the mallow; they are never deeply lobed, but more often nearly round or heart shaped. The fruit stem is short, thick, wrinkled, but not five angled and not five furrowed, and when green is nearly as thick at one end as at the other. The fruit when cut across, is found generally to have four or five double rows of seeds, more rarely only three double rows; and I have found this smaller number only in the autumnal marrow squashes, and it is by no means a constant character even in them, four or five double rows being occasionally found in them. The fruit is fit to be eaten in autumn and winter, and only when fully ripe. It is always distinguished, however various the shape and size, by having a small nipple-like projection at the blossom end, this projection being the permanent style of the blossom, the rind, which is generally remarkably thin and tender, never becomes hard, dry, woody and brittle. The flesh, often of a rich orange color, and remarkably sweet and fine grained, never dries up or becomes spongy like that of summer squashes, but remains succulent till it rots. The seeds are large, broad, thick or plump, mostly of a beautiful clear white color; but in certain very dark fleshed varieties, the seeds are of the color of old ivory, or cream colored.

Now, I am strongly inclined to the belief that all the pumpkins and squashes of this third division were *originally natives of the western side of America*, as Chili, Peru, Mexico and California. Some of them have doubtless been introduced into the West Indies, whence they occasionally are brought to our markets.

From the Farm Journal.

CHICKENS.

Mr. Editor.—Perhaps at this peculiar period of hen-roost celebrity, while the attention of farmers and house-holders is so urgently directed toward the improvement of their chickens, a woman may be permitted to give the result of her own experience, for the benefit of those unfortunate mortals who are unable to obtain the far famed Shanghai or other imported crows and cacklers.

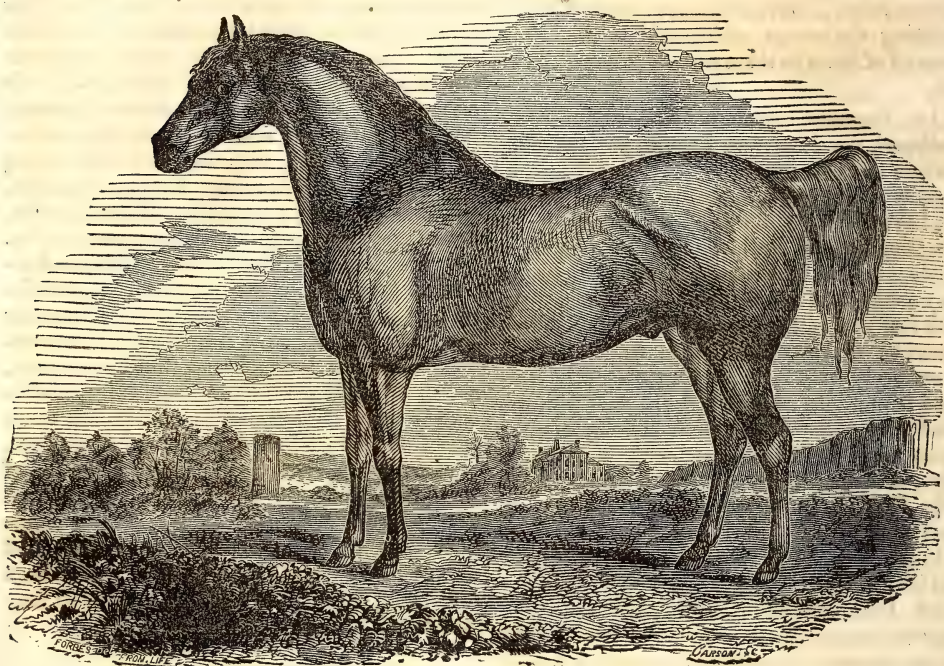
I have been nominal mistress to flocks of chickens during at least twenty summers, but for a great part of the time I left the management of the poultry yard to whoever was pleased to attend to it. And it was managed after this manner: the eggs were collected for eating, as long as the cool spring weather continued, and no hens permitted to sit until May or June: then the earliest chickens were

eaten in the fall, and the late half-grown ones kept to perpetuate the stock: it is a popular belief that late chickens lay best in the spring. Well, our chickens deteriorated sensibly; they grew to be no larger than pheasants, and many of the young chicks were cripples, and unable to walk. We were always changing with our neighbors, not only crows, but hens and settings of eggs; all to no purpose. Finally I begun to philosophize upon the subject. I always preserve the earliest setting of peas, beans, and other garden vegetables, for seed, and so improve my varieties; and I now resolved to try the

same with my fowls. I observed that half-grown chickens in the fall were only half-grown chickens the next spring. So I commenced by "setting" my hens as early as they showed an inclination to hatch, and then selecting the largest and finest of the chickens, for my next summer's stock. (I also keep one crower for every five hens, and have no lame chicks.) Now I have as large, fine, hardy and prolific fowls as any reasonable woman can desire to possess, without the extra care and nursing which is required by the imported breeds.

LYDIA JANE PEIRSON.

THE MORGAN HUNTER.



We take pleasure in publishing the following notice, accompanied by the portrait of the noble little stallion Morgan Hunter, little at least, if the term is applicable to a horse, which though only fourteen hands an inch and a quarter high, yet weighs about eleven hundred pounds, and is in his form the model of a road horse. We have seen this animal, and can truly say that his portrait does not do him justice. He does not "mount" perhaps quite as well as that represents him, but his head and neck are both finer than they appear here. Coming up in form and action, spirit and docility to all the characteristics which we have seen attributed to the Morgan horse, we have no doubt that he is of that strain, and the only thing that induces us to suspect him, is that we cannot imagine what

could make the yankees send a specimen apparently so perfect, so far from home.

This horse is now spending the spring and early summer in Charlottesville, and will make a full season in Augusta.

THE CURRYCOMB.

The free use of the currycomb is equal to many a quart of oats in the course of the winter, but it should be used judiciously. Having tied the horse up pretty close, take hold of the left cheek of the halter in your left hand, and curry him along his neck to his shoulders, and so go all over his body to the buttocks, down to his hocks—then change your hands, and curry him before on his breast, and laying your right arm over his back, join your right side to his left, and curry him all under his belly

to his chest, and so all over very well, from the knees and shoulders upwards. This side completed, go to the offside, and do that in like manner, reversing positions. Then with a cotton cloth, dust off all the dirt raised by the currycomb. The brush is next to be used, beginning at the head, and going down to the fetlocks, (which should be washed if dirty,) keeping the brush clean with the currycomb. Lastly, take another cloth, and rub him down until his coat looks smooth and bright.

This system of horse cleaning can be easily learned, and the improved appearance of the horse will prove its excellence. Cleanliness, in man or beast, is all-important.—*New England Cultivator.*



THE SOUTHERN PLANTER.

RICHMOND, MAY, 1854.

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NECESSITY OF GOOD STOCK TO VIRGINIA FARMERS, AND HOW THEY MAY GET IT.

In two former numbers we have called attention to the above subject. We now proceed to show how the stock may be obtained cheaply and in a short time.

The best mode of doing this is by the principle of combination, and there is nothing new in applying it to this business. More than fifty years ago, Bakewell, the eminent English breeder, from whom the New Leicester sheep derive that synonyme, associated with himself several other farmers, known collectively as the Dishley Club, after the name of Bakewell's residence, for the purpose of improving various kinds of stock, and all that they took in hand they improved to a degree of excellence never before reached by any of them. Some of these, it is true, we mean the long horn breed of cattle, have been permitted to recede to their original inferiority, but the fact that they attained the high position he gave them, proves that even in the most unpromising cases, system, skill, and combination can rapidly regenerate an inferior breed. It may give an idea of the advantages that we possess for the purpose of improvement to state that British cattle now weigh more than double what they weighed about seventy years ago, and that we not only have their improved breeds to found our improvements upon, but that as the average weight of our cattle is now greater than theirs was at that time, we start from a higher point in the scale, with the advantage also of a better general system of agriculture.

Suppose the object to be the introduction of an improved breed of cattle, for instance, the Devon. Let a club of, say twelve gentlemen, associate for the purpose, or at least let twelve shares of stock be created to be taken by not more than twelve members. Let them select such cows, either from their own or their neighbors' herds, as combine in color and other characteristics the strongest points of resemblance to that breed. Then let one bull be purchased at a cost of \$150, and limited to 36 cows, or three for each member of the club—an ample number, if the strongest and healthiest offspring be desired. Let him be travelled to different points, as stallions are, or let the cows be sent to him at one place, as may be most convenient. Suppose that thirty calves are the result. Let every male be castrated or made into veal, and let the heifers be well reared.

Once a year let these animals be exhibited, and give to males and females each in their class a premium of four dollars for the best, with no subsequent lower premium. The next year give premiums of the same amount to the two year olds of each sex, and also to the yearlings as before, and so on to the third year. After which they may

be committed to the private care of their masters. Now if the same man shall have taken the same premium each year on any animal, or otherwise three premiums, he will have obtained twelve dollars, about equal to his interest in the bull, which, by this means, will have cost him nothing, and the other members (or shares) of the club will each have contributed about a dollar to him. But if they have competed for the premium, as they should be made to do under a penalty equal to its amount, then the superior attention paid to their own animals will have paid them, perhaps ten times over, the amount they have contributed.

Then let the premium animals, and none others, be sent to the Annual State Fair, and let the card of exhibition state that it is the premium animal of each particular club. In this way the Fairs of Virginia, whether County, District or State, would soon be supplied with their own stock, and those equal to any in the world.

We said that every male should be castrated, because a half blood cannot be relied on to propagate the qualities of the sire; and for another reason: they ought not to be permitted to get into other hands, as some would if kept. Neither ought a neighbor to be allowed to send his cows to the bull. Such restrictions look selfish and churlish, but they are neither. We all know that what comes cheap is but little regarded, and that it is much more the neglect of stock, coupled, it is true, with much ignorance of the suitability of particular varieties to given localities, than any worthlessness of the breeds themselves that has caused so many persons to become disgusted with the business of stock raising in Virginia. From this cause if the benefits of the association are attempted to be conferred on outsiders we think that the character of the whole breed will be injured, and the improvement sought to be introduced will be hindered or delayed. This restriction, too, will stimulate others to the like associations, and thus tend to produce a healthful rivalry and competition in the business. After the services of the bull have been availed of for one set of cows until his calves have become of suitable age he can then be disposed of, and another of the same breed substituted; or, what is much better, he can be kept, restricting him to the same or a similar lot of cows, to produce half breeds, which, in their turn, shall produce quarter breeds, and so on, until in a few years the desired strain shall be pure for all practical purposes, and in a few more reach that purity which is required by the fastidiousness of the herd book.

This, without going into all the minutiae which would be required in the by-laws of such an association, is the outline of the plan we propose for improving all the stock of Virginia of every kind and in every place. We have illustrated it by cat-

tle, but with more or less of modification it applies to every other kind of stock. We deem it entirely practicable and advisable, not as a supplantation of private enterprise, ever the best mode of improvement in all things, but as substitute for it in all cases where want of information or want of means shall form obstacles to improvement.

As to its rapidity of operation it can be easily seen that in the case of cattle it will be speedy, and more so with some other sorts of stock. The heifer will be ready to breed at two years old, her calf at the same age, and so on, giving intervals of thirty-three months between each generation. The first generation will be half blood, the second three-quarters, the third seven-eighths, and the fourth fifteen-sixteenths, or what is called full blooded. This takes place in eleven years. If a portion of the original female stock be also thoroughbred the period of getting a good stock will be diminished.

"A Farmer," says Morel de Vinde, though we forget who Morel de Vinde is, "desires to have a flock of 300 sheep—he purchases a sufficient number of ewes, say twelve, eight or four. The first year his flock will be composed of two classes, pure and hybrid. He keeps the females for breeding. When he will have accomplished 300 female Merinos there will no longer be a hybrid in his flock. To obtain this he will require eleven years if he commences with twelve Merino lambs; twelve years if he commences with ten; thirteen if he commences with eight; fourteen with six, and fifteen with four." Supposing in each case the usual proportion of ewes.

The kinds of stock should be adapted to each locality, and breeders should remember that the most fashionable are not, therefore, the best for their lands. We have seen on the farm of a friend on the Southside, a herd of Short Horns which were about as well suited to his pastures as camels would have been to his ploughs, and on the same farm the delicate, sluggish, lubberly, foul nosed Cotswold sheep, instead of the compact, clean limbed, hardy Merino or Saxon, or the equally hardy, active and sprightly South Down.

In the matter of sheep we have spoken before. Of cattle, instead of saying any thing of our own, we submit the following condensed statement of the merits of different breeds presented by Mr. Howard, the Editor of the Boston Cultivator, at a late meeting of the Agricultural Club of Boston:

"As Dairy Stock—

"1. For poor and rough soils, the Kerry breed, indigenous to the mountains of Ireland, and represented by all authorities as combining remarkable hardness of constitution with superior dairy qualities, especially for the production of butter.

"2. For better soils, and for milk-selling establishments, the Ayrshires.

"3. For cities and towns, the Jerseys, at the

same time testing them by fair trials, as to general adaptation.

"4. A selection from the common, or so called native stock, to be subjected to a systematic course of breeding.

"5. Crosses of the Ayrshire and of the Jersey with the common stock, the offspring to be kept separately for a sufficient period to ascertain their qualities.

"As Fattening Stock, of Secondary Value for the Dairy—

"1. For poor and rough soils and a severe climate, the West Highland Scots.

"2. For somewhat better soils, the Galloways and Devons.

"3. For medium quality of soils, the Herefords.

"4. For the best soils and milder climate, the fattening variety of Short Horns.

"The Herefords, Devons and West Highlanders are excellent draught cattle.

"In this climate, owing to the extremes of heat and cold, strength of constitution is an important requisite in cattle that are obliged to undergo more or less exposure at all seasons. On this account, as well as for other intrinsic properties, the lecturer advocated strongly the introduction of the West Highlanders."

Several of these breeds of cattle are not known here at all; but they are very meritorious and deserve to be investigated. The Kerry cows, particularly, we think suited to the short grass of much of our country, and we believe, though we express the opinion with hesitation, and frankly avow that it is the result of reading and not of observation, that for the chance they have had the Herefords deserve vastly more notice than they have received. We think that with the same chance they would now have been better stock in every way than the boasted and beautiful, but delicate and uncertain Short Horns.

Be that as it may, any is better than none, and a plenty better than a few. They and all other stock are necessary to a high state of agriculture—and the farmers who do not keep enough stock to make manure and to bring revenue, cannot be expected to enrich their lands or keep up their fertility.

AWARD OF PLANTER PREMIUMS.

Though the Premium List of the Planter closed on the first of April, as it was limited to do, yet we could not publish it in the April number because the full returns were not in. We now announce the result.

To Mr. F. N. Watkins of Farmville, Prince Edward, who has sent us for new and old subscribers the sum of \$207, we award the first prize of the thoroughbred Devon bull calf, "Farmington the First," with the hope that his horns may never grow less.

To Mr. William W. Garrett, Rumford Academy, King William county, who has sent us \$100, the

South Down ram, "Ivy," with the hope that he may never have any horns at all.

To Mr. J. F. Hansbrough, Stevensburg, Culpeper, who has sent us \$55, the boar pig, "Lewis," and the sow pig, "Joanna," with the earnest wish that their tails may always remain curled as handsomely as at present.

We shall be happy to hear from all these gentlemen at an early day, that we may know how they wish their animals consigned.

OATS AND LATE CORN FOR HOGS.

Now is the time to make arrangements for hogs. Fence off a portion of the oat field, say ten acres for fifty hogs, and do it before the oats get so high that you will think it a pity to haul rails through them, and before the corn gets so high that you will not be able to spare the time from it. Turn in the hogs when the oats are three-fourths ripe.

In this month, too, plant corn (two acres for fifty hogs) thicker than your regular crop is planted, to cut up and give to them green, stalk and all, after the first crop for that purpose is exhausted or become too ripe.

That first crop is easily provided for by refraining to thin, or by leaving twice as thick, two acres of your regular crop. And remember not to let your cattle get to the refuse of this feed left by hogs, as if they do they will surely die. Feed out in the roasting ear.

A correspondent recently told us that the article we wrote on this subject some time since was worth many years' subscription to the Planter. To those who had no other means of arriving at the fact than through the columns of the Planter we know it was worth, or will be just double the quantity of pork they had before, and at no increase of expense.

DERBY'S HORTICULTURAL REVIEW AND BOTANICAL MAGAZINE.

We are indebted to the courtesy of the publisher for the March number of the above periodical, published at Cincinnati, and edited by John A. Warder, M. D. and James W. Ward, Esq.—price three dollars per annum for twelve numbers of 48 pages each. We take pleasure in recommending it to those of our readers who desire to possess themselves of an able work adapted to instruct and entertain them on the subjects of *Horticulture, Floriculture, Botany and allied sciences*. The typography and pictorial illustrations of this number are beautiful specimens of art, and the high order of its contents in talent, taste and judgment is creditable to its conductors and contributors. If its present character is well sustained in its future numbers it cannot fail to

win its way to public favor, exert a salutary moral influence, and establish a just claim to be regarded as a work of standard authority and usefulness in the department of which it treats. From a very inviting bill of fare contained in its table of contents, we pass over several interesting articles, especially one on Beauty in Architecture, and single out for a few extracts one communicated by S. B. Gookins, Esq., on the "Culture of Rural Taste," with particular reference to the embellishments of home—

"That spot of earth supremely blest;
A dearer, sweeter spot than all the rest;
* * * * *

Here woman reigns, the mother, daughter, wife;
Strews with fresh flowers the narrow way of life,
In the clear heaven of her delightful eye,
And angel guard of loves and graces lie;
Around her knees domestic duties meet,
And fireside pleasures gambol at her feet."

We proceed to add the extracts above referred to, that our readers may see that the praise we have bestowed is fully justified:

"Taste is the perception of beauty, and a correct taste is the true standard of judgment, in respect to the harmonious relation of parts. It presents us a very wide field of observation, comprising painting, poetry, architecture, etc., and brings to the standard of judicious criticism, every product of artistic skill."

"The social condition, the habits of life, the character of the climate, and many other considerations, determine the fitness of the appointments, and surroundings of our habitation."

"No better field can be found for the display of a refined and cultivated taste than is opened to us here; for it is the surroundings of home that clothe it in a comely garb, and commend it to our admiration."

"But the chief consideration is the moral effect of a refined and cultivated taste upon the country in general, and upon the family relation in particular. Let us indulge for a moment in a fancy sketch. Here is the dwelling of a comfortable farmer; it is substantial, plain, unostentatious, but just in its proportions, and adapted to his condition and wants; his grounds are judiciously arranged, and his tenement is surrounded by orchards and gardens, and embowered in roses and evergreens. These elegancies have cost him little. His stalwart limbs are usually devoted to the operations of his farm, but his eyes have also been opened to the beautiful in nature, and he has reclaimed a few hours from his more laborious pursuits, and planted a few shrubs and trees—kind nature has done all the rest. The club of Hercules was enwreathed in roses while he slept; so the sylvan graces have beautified his home during his hours of repose. His children have caught the inspiration, and with an appetite formed for these pure delights, what vicious pleasures shall have power to draw them thence?"

"The pleasures we derive from the embellishments of home, are not merely pleasures of sense. The eye is delighted, it is true, but there is an elevating, ennobling sentiment of the heart, brought into exercise by the care we bestow upon these

objects of our regard. Who cannot remember, when in the days of childhood, he planted an apple seed, a melon, a sunflower, or even an humble bean? How often, during the period of germination, did you visit the spot; and when, at last, you found the smooth surface slowly bursting up, and you peeped under, and saw the two first leaves—instinct of life, coming forth as it were, at your own bidding—how did your young heart dance with delight! and how did you go, day after day, to watch its development, as one leaf after another was unfolded, and the stalk extended and finally the flower and the fruit appeared.

"Nor do we in mature life, feel less regard for those things toward which we hold the relation of a foster-parent. We watch the growth of a choice rose or dahlia, or a favorite graft, with as much interest as the child did his sunflower. It is not difficult to understand why these things give us pleasure. The phrenologist would say, the organ of philoprogenitiveness is agreeably affected. I would say, God loves the excellent and beautiful works of his own hand, and he has imparted the same sentiment, in a degree, to us, whom he has fashioned in his own likeness.

"In general, woman's heart is more susceptible to these impressions than man's. It is her peculiar forte to love, to foster, to cherish and to rear. Old or young, she is the universal mother."

"Here, then, is a field for the exercise of women's rights, the possession of which no one will contest, and the power of which none can deny. Here is a mine, whence the choicest gems of earth are dug—gems which adorn the home circle with those rich treasures of purity and love, which shall not fade when the purest carbon shall have lost its lustre. Intellects developed, and affections moulded under the influence of happy homes will be the source of our purest pleasures here:

"And when the frosts shall come,
Transplanted, they shall bloom anew,
Impearl'd with drops of heavenly dew,
In their eternal home."

REPORT OF GEN. WM. H. RICHARDSON

To the Virginia State Agricultural Society, of his operations as their agent.

In explanation of the late appearance of the following report, it is proper to say, that it was not presented to the Executive Committee until the February meeting, and was then mislaid by their Secretary and not found until a recent period.

TO PHILIP ST. GEO. COCKE, Esq.,
Pres't of the Virginia State Agricultural Society.

Sir,—Having according to the best of my judgment and ability discharged the trust committed to me, and the general meeting of the Society being at hand, it seems proper that I should make some report to you; although from the necessity for long continued and active exertions and of passing almost continually from place to place, it has been impossible for me to collect and arrange the materials for such a report as you desire, and as at first I had hoped to present. I have in fact, only reached the city this morning, and am not yet in possession of all the returns it is desirable for me to include. I am therefore restricted to a general outline of the

series of operations projected between us in February last, having for the leading objects the union of mind as well as of numbers—the awakening of a general interest in the cause of agricultural improvement throughout the State—and the manifestation in a great Cattle Show and Fair, of her boundless resources, agricultural, mineral and industrial.

Immediately upon the arrangement proposed by yourself and Mr. Williams, recording secretary, (subsequently confirmed by the Executive Committee,) the work was commenced, and I very soon found that it would require extraordinary exertions and my whole time with all the aid which could be obtained.

This important agency having been committed solely to me, the first consideration was, how most effectively and promptly to attain the ends proposed in its creation. As one of the most extensive and potent, I sought and obtained the aid of the newspaper press, which almost every where has been liberally and promptly exerted for the Society, from the commencement of my agency to this date—thus rendering a service to the agriculture of the State which cannot easily be repaid and should never be forgotten. Bills in great numbers, have also been printed and circulated as extensively as possible.

The season being unfavorable for operations in the country, I commenced the canvass in the principal cities, devoting to each as much time as could be profitably employed. Richmond, Petersburg, Norfolk and Alexandria have all contributed more or less liberally—the merchants and mechanics particularly so in each of them. In Petersburg the subscription was taken with unsurpassed promptitude and liberality—and without injustice to others, it is but sheer justice to that patriotic city to state the fact, that in proportion to her population she has outstripped them all in a prompt and public spirited support of the important objects of my agency.

I found it impracticable to obtain suitable aids to divide the State with me until the month of May, when my son like myself having been dismissed from the public service of the State, was as you will recollect, prevailed upon to assist me. Our united and unremitted exertions have covered an extended line of operations, embracing the larger portion of the State from the seaboard into the Alleghanies, and as far as the county of Wythe in the south-west. In addition to this, we have sought aid by correspondence and otherwise, with such counties as we could not reach, and where necessary, offering every inducement at our command, to secure it. To give you some estimate of the extent of this correspondence, I may state here, that I have used in it myself more than 400 post office stamps.

In the cities subscriptions were freely given as for the encouragement of a great State enterprise—but through the country generally, except on the south side of James river, little or no interest was manifested at first in the success of the Society, of which many had never heard, and few cared for. Fortunately, however, we received in almost every county the active co-operation of enlightened and public spirited gentlemen, and I can now confidently report that there exists a wide spread and zealous interest in the cause which will triumphantly sustain the Society, and that the approaching Cattle Show, unless interrupted by bad weather, will far surpass any thing that had been hoped for

in the beginning. More than enough fine stock to fill all the stalls and pens has been promised, together with many specimens of the manufactures of our own people, including agricultural implements, woollen, worsted and cotton fabrics—minerals—marble—red freestone, lately brought into use by the Orange and Alexandria rail road passing through beds of it in the county of Prince Wm.—native cement, &c. &c. These will occupy all the grounds prepared by the city of Richmond.

As regards the number of members and amount of subscription received by us, it may seem to have come short of our first expectation. I have, however, paid into bank to the credit of the treasurer, more than \$2000, and shall probably add to it \$400 or \$500. My son's collections will approximate to \$2000 more, we suppose. At any rate the two will not fall below \$4000, sufficient with the amounts pledged from several counties to pay all the expenses of the Cattle Show, and more, without estimating gate money. You will recollect how much from the beginning was considered dependent upon the success of this first great effort, which my correspondence with you during the year has informed you I have kept steadily in view. When, therefore, an amount sufficient for the purpose had been secured, our efforts were directed almost exclusively to securing the stock and other materials to constitute an imposing exhibition of the resources of the State, and to excite such an interest among the people as would induce them to attend it. The facilities so liberally afforded by most of the rail roads will aid materially in this, and with such a concourse as the Cattle Show will probably bring together, the Society will get more members than could otherwise be enrolled in a five years canvass.

In addition to the means already mentioned, I have kept in the papers for some months past, a standing notice that we would attend as many of the courts as possible—but requesting those whom we might not find it possible to see, and who might wish to become members of the Society, to inclose their names and subscriptions to Chs. B. Williams, Esq., recording secretary of the Society, or to myself at Richmond: and I am happy to find that a considerable amount has in this way been remitted to Mr. Williams. This will be largely increased by those who will become members, at the Cattle Show, as many have promised us they would do, if it should be in their power to get here. The gate money, if the weather shall prove fine, may be estimated at from \$1500 to \$2000 at the least.

The want of a certain conveyance from Alexandria to Aquia Creek, which some time since I suggested the expediency of providing at the expense of the Society, will cut off from the Cattle Show most of the stock, manufactures and implements from the rich counties in the lower part of the Valley, and from Loudon, Fauquier, Fairfax, &c., except Mr. Hugh M. Nelson's stock, which he is determined *shall be here*, although he has to bring it by way of Baltimore. These counties, by means of the Orange and Alexandria and Manassas Gap rail road, and the Chesapeake and Ohio Canal, would have concentrated at Alexandria, where I hoped that a boat would be provided for it on the part of the Society if it was not by that city. They will not rely upon the mail boat, and ought not; because that could carry but a small portion of stock or implements, and could not possibly stop long enough to take them on board, even if it had room for all. I had no authority to charter a boat, and perhaps went too far in proposing it. But I knew

that no premiums the Society can offer, constitute a sufficient inducement to the proprietors of valuable stock to incur the risk and inconvenience of conveying it to a distant place of exhibition—and that they can rarely be induced to do so without some exertion on the part of the Society or its officers—more especially when, as in this case, the Cattle Show was a first attempt, and of course uncertain of success.

However this may be, I but state a well known fact, that both my son and myself have exerted every faculty of body and mind, without regard to fatigue, exposure or expense, with an eye single to carrying out the important trust committed to us—with what advantage to the Society, the future must determine.

Furthermore, I entertain no doubt whatever that the Society can be sustained without legislative aid so long as its operations are judiciously directed, and so be independent and free to pursue its own course without interference or deleterious control from any quarter.

Nothing more occurs to me at this time as necessary to be mentioned. I regret that this report is so meagre, and also the necessity I am under of speaking of the labors of myself and my son. That could not be avoided to some extent in any report, and I have endeavored in this to go no further than justice to ourselves seems to require.

I ought not to close it without a grateful acknowledgment of the hospitality and kindness with which we have been favored throughout our whole tour.

I am, sir, with high respect and esteem,

Your ob't serv't,

WM. H. RICHARDSON, *Gen. Agt.*

Richmond, Oct. 29, 1854.

From the Soil of the South.

A TREASISE ON THE CULTURE OF CORN.

BY JAMES M. CHAMBERS.

For this crop, I lay it down as indispensably necessary, that the earth should be broken deep and thoroughly. The process of preparation may vary with the nature of the soil. The time of planting in this climate, where the summers are hot and long, and droughts frequent, should be just as early as may be practicable, to escape the spring frosts, and the culture should be early and rapid. First, then, I say, the earth is to be prepared by deep, close and thorough ploughing. This is necessary, to give an opportunity to the small fibrous roots, which are so numerous with this plant, to shoot out and penetrate the earth easily, to retain proper moisture when dry, and to absorb excess of moisture when wet. Next, I would secure a deep and thorough breaking of the earth immediately about where the young roots first begin to spread, by a deep and close listing with some long plough; nothing in use among us is better for this operation than a well made scoter. This done, the opening furrow, checking across the list, in which to drop the seed, should be deep and so wide as to stand well open, free from clods or turf; and the seed corn being dropped in the check, then cover with the hoe, by drawing a small portion of loose earth upon the seed, which should when planted not have more than a depth of one and a half or two inches of earth upon it. I would put in three

or four grains where only one was to stand, esteeming it much better to thin than to replant, thereby securing an early, regular and good stand. As soon as the young corn was up, with about four blades, the first working should be given. My process would be to plough with a long scoter or coulter, running as near the corn as possible, without ploughing it up, and breaking out the whole middle deep, close and thorough, leaving the whole bed soft and well pulverized. The hoes should follow close after the ploughs, cleaning the surface about the stalk, leaving no young grass or weeds, and returning enough soft earth to cover the roots of the corn a little deeper than they were before; and at this hoeing, I should thin out ordinarily all except the one stalk which was to be left to make the crop. In about twenty days the ploughs should return again. At this time, if the ploughing previously had been deep and thorough, I should not plough quite so deep as at the first. But this also ought to be a deep ploughing, and the middle of the row also to be well broke and pulverized. A small mouldboard ought to be attached to the plough, running next to the corn, so as to place a greater depth of earth on the roots, thereby securing moisture and protection from the hot sun. Now is the time, when the roots are spreading rapidly and widely, seeking nourishment and moisture in the soft and well ploughed soil. At this working, care should be taken, that when the work is done, each furrow should well fill up its predecessor, so that every inch of earth should be broken, and no furrows in the bed should be seen standing open to expose the roots as they shoot across, but all should lie smooth and soft. At this working the hoes should also follow, cleaning any hills which the plough should have slighted, straightening up the bent stalks, pulling out any surplus stalks or suckers, and cleaning round the stumps and trees. Care should be taken at this working to leave no grass or weeds near the stalk. If the ploughs have faithfully performed their duty, but little will remain for the hoes to do. The corn will now be sufficiently large to bear the dirt, and a good ploughman with a well fixed plough, will throw the soft earth around the root of the stalk, covering up most of the grass, which as yet must be very small and young, and sufficiently hilling the corn, leaving the work nearly complete, without the aid of the hoe. In these workings, I would greatly prefer that the earth should be in a moist state; but regard it unsafe to delay the work, more than a few days at most, to wait for just such seasons as would be preferred. As a general rule, in the cultivation of the crop, it is not best to regard the seasons too much, but move directly and energetically forward, leaving the results to be controlled by Him who "giveth the early and the latter rain."

About three weeks after this working, the third and last should be given. The operation of laying by corn is one requiring more discretion and judgment usually than any other, and much, after all, must be left to the judgment of the planter, dependant upon the circumstances of the case. It would sometimes happen that it had been dry, and every thing standing as when left; at another time, hard rains will have ensued, and all the former have been undone, the land washed and settled hard and close again. What to do, and how to do, must be determined very much by the necessity and circumstance of the case. If the seasons had been ordinary, plough shallow and not very close, leave the surface of the bed smooth and soft, with-

out having torn the roots of the corn much. The weather is now hot, and the roots of the corn matted and spread thick through all the earth from row to row. The stalk needs all the nourishment and support which the roots can give, and it is at great hazard now to cut off these supplies. Hence the necessity of those early, rapid and thorough workings, which I have recommended, before the roots have so spread out; before the weather has become so hot; and before the stalk, now sappy, needs so much support. As I have previously remarked, I now repeat, this crop must be worked rapidly and thoroughly. It will not do to let the young corn stop growing, or the stalk ever become hard. It must be pushed from the beginning, and if ample justice has not been done in the earlier workings, it is in vain to hope by later workings to make good a corn crop which has been permitted to suffer in the earlier part of the season. My motto is, begin early, work often, and lay by soon. The roots of corn grow up upon the stalk, and are all the while seeking the surface—hence the necessity of adding more earth.

At the last working, if I wanted to make the crop perfect, I would pass over with the hoes after the ploughs, clean out every thing, pull off suckers, straighten up the bent stalks, and draw some more earth around the roots of the corn, giving greater protection against the scorching heat of the sun, and retaining moisture longer about the root. My opinion is, if proper attention has been given in throwing dirt to the stalk in former workings, that not a great deal remains to be done in that way at the laying by.

It remains now for something to be said about distance of rows, number of stalks, hill and drill corn, &c. Taking the common lands of our country for my basis, and it is perhaps best in a treatise of this sort, to select a medium grade, I would give my preference to hill corn, rather than drilled, and to one stalk in preference to two, in the hill. I would have the hills four and a half feet one way and three and a half feet the other, and leave one stalk in each hill. The first ploughing should be the narrow way, the two last the wide way of the rows. My objection to drill corn, is founded mainly in the difficulty in getting the stand uniform in the distance of the stalks from each other, and I think it requires a little more labor in its cultivation. My objection to the two stalks in the hill are, that the one stalk is better fed and sustained when standing alone; that two would be thrown together to seek their supplies from the same space of earth; that consequently more vigor will be imparted to one than could be to the two; that in time of drought the two will suffer the more than the one; that the two stalked corn cannot be so conveniently worked either with the plough or hoe, and will not produce such large ears. I admit that there may be frequently, perhaps generally, more in number, but the ears of the one stalk will be uniformly larger, the yield as great, and the quality of the corn better. On river bottoms, where the lands are richer, more stalks may be crowded upon the lands; more and different workings may be required; and of course the plan should be so varied as to suit the circumstances of each case. It will be borne in mind that my theory is made out to suit the medium average lands of the country.

In the close, I would remark that I have written for practical men; have presented facts, rather than scientific theories, and if there is any merit in my thoughts, the plan is easy of comprehension and

adoption by the great body of planters. In the selection of seed, I have only to add, that I like that corn which has the least cob and most grain, and would select those ears which have deep, long grains. I have no doubt that much improvement may be made by a judicious selection of the seed for corn planting; by selecting from the field those ears where two may be found on the same stalk, and where the ears are large, well matured and well filled. The benefit of this plan has been very fully demonstrated. It will be found, however, to be true, that almost in the same proportion as the number of ears are multiplied their size will be diminished. Between these two extremes will, therefore, be found the best seed, and the best guide for its selection. As to the varieties of corn cultivated in this country, my preference is for that which seems to have fallen in as a sort of medium betwixt the old gourd seed and the flint, possessing the peculiar qualities of neither, but a sort of combination of both.

I might enlarge this treatise by speaking of the kinds and methods of manuring, but as that properly constitutes a separate branch, and our Society have called for a separate treatise on the application of manures, I shall not trespass upon your patience by adding more.

In the above valuable essay on corn culture we do not wish to be understood as endorsing all that the Editor of the Soil of the South recommends, but it is necessary to criticise only one thing. It may do in Georgia and Alabama to plant corn $4\frac{1}{2}$ by $3\frac{1}{2}$ feet, as he recommends, but it is not near so thick as it ought to be planted in this latitude, though the custom in many places is to plant at least as wide. But we believe that for one barrel lost by thick planting in the South, thousands, perhaps hundreds of thousands, are lost by the opposite plan. The best rule, according to our observation of the practice in this region among good farmers and on good land, is 5 feet by 18 to 20 and 24 inches, according to fertility, and on low grounds as little as 15 inches, one stalk in the hill—for thin land we think the extreme distance 5 by 2 feet ample.—ED. SO. PLANTER.

DRYING HOUSE FOR FRUIT.

Some time since a subscriber to the Planter asked us to give a description of a house for drying fruit. We wrote to a friend in Rockingham to describe one we had seen on one of his farms, and here is his answer.

The business of drying fruit for market is a very profitable one, and we wonder that so few people engage in it.

Mr. Editor.—The dry house at Detrick's is of brick, one brick thick, on a stone foundation a foot high. The brick part is four feet ten inches high, seven feet one inch square from out to out, with a door in one side two feet three inches wide, and as high as the house will admit. In each end there are three rows of frames, with two openings each, large enough to admit drawers two feet nine inches

wide and three inches deep, making six drawers at each end. These drawers are made with slats in the bottom an inch wide and one-sixteenth of an inch apart. On the inside of the house there are three pieces of laths three inches wide by one inch thick, built into the wall on each end as far as the door will admit, so as to support the inner end of the drawers; they are just opposite the lower edge of the frames that holds the drawers; there are also strips that run from the frames to the laths to hold the drawer as it runs in. Each drawer has two knobs to draw it out with. The top frame that holds the drawer is two rows of brick from the top, and there is one row of brick between the frames. On the top of the brick work is a frame and tight floor, and on the floor is built a brick chimney for a stove pipe. Over all is a good shingle roof put on as other houses, and the gables weatherboarded up. It has a good stove in the centre of the house.

I have given you a description of the Detrick's dry house, according to your request; but I would advise that the dry house be made of timber, and made larger. It has been found that the brick ones are damper than the wood, and do not dry fruit so well. The house should be much larger and plenty of space between the drawers.

From what I have seen of dry houses, if I were about to make one, I would take four posts, four inches square, and plank them together as if I were making a goods-box, using inch plank and making the joints tight, and have the timber perfectly dry. I would make it twelve feet by ten, and six feet high in front, and five behind, cover it tight by laying the plank on the top, and then bore holes in the plank and put poles across to hold the common dryers; making three or four tier of poles on each side of the stove. Make the door in the high side and make it tight.

SOWING CORN FOR FODDER.

In answer to an inquirer, the *Albany Cultivator* gives the following directions to cultivate this crop with the most success, which we copy as being valuable, especially to farmers and dairymen who read the *Telegraph*.

We have cultivated corn for fodder for many years, and find it, all things considered, the most profitable crop we can raise. It may be sown during the comparative season of leisure just after corn-planting, and secured at the next season of leisure just after haying and harvesting. After repeatedly cropping the same ground, we are satisfied that it rather enriches than impoverishes the land, no grain being formed, and a vast bed of roots remaining. Nothing is equal to it for reducing rough, turfy, weedy land, to a state of cleanliness and good tilth. We believe it the best fallow crop in the world, to precede wheat.

It should never be sown broadcast. The imperfections of this mode are the chief reasons that the crop has not become more generally introduced. It requires more seed, and leaves the ground in a fouler condition than when sowed in plowed drills. We have tried both ways to our entire satisfaction as to the comparative value of each. The following is the best mode for sowing, cultivating, and securing the crop:

Plough and harrow the ground as for any other crop; furrow it with a one-horse plough, three feet

apart; let a man pass along one of these drills with a half-bushel basket on his left arm containing shelled corn, and strew the seed in the furrow at the rate of about forty or fifty grains to a foot, which will be about two and a half or three bushels per acre. He will do this evenly with a little practice, as fast as he can walk. If sowed thinner, the crop will be smaller. We have found by accurately weighing and measuring, that twenty grains to the foot yielded only two-thirds the crop afforded by forty grains to the foot. Immediately after the sower, follows a man with a one-horse harrow or cultivator, or with a two-horse harrow, *lengthwise* with the furrow, and covers the seed. Two men will thus plant six or seven acres in a day.

When the corn is six inches to a foot high, run a one-horse cultivator between the rows. This is all the dressing the crop needs. No hoeing is necessary, for the dense growth soon smothers all else; and in the autumn, when the crop is cut off, the earth is left as clean as a newly ploughed field.

It is to be harvested about the first of autumn. If the crop is very heavy or much "lodged," it is cut by reaping. If straight and even, a common scythe will answer the purpose, a little practice enabling the operator to throw it smoothly with the heads in one direction. After partly drying, for a day or two, the best way is to tie it in bundles and put it up in large shocks, although raking by a horse into winrows for cocks, might answer well for large fields. It must dry for some weeks. It can *never* be safely put into *large stacks*. The most perfect way would be to place it in small stacks or long upright rows, under a large shed. Even if the stalks appear perfectly cured after several weeks exposure, they will certainly heat and spoil if stacked in the ordinary way. Hence, the stacks must be quite small, freely salted, and well ventilated by means of three or four poles placed upright in the centre. We have found the stalks to retain a good condition when left in large well made shocks on the field, till wanted in winter. Curing is the only difficulty with this crop, and this ceases when understood.

Land that will yield thirty bushels of corn to the acre, will afford about *five tons* of dried fodder. Moist land is better than very dry, as it is more affected by drought than ordinary corn crops. We have not found the cost, including interest on the land, to exceed \$1.50 per ton for the dried fodder.

For soiling, or feeding green, corn fodder often proves of the highest value, when pastures are burnt by drought. For this purpose, it may be sown at different periods till mid-summer.

We have ourselves repeatedly tried to cure corn fodder and have never yet succeeded. If a practicable plan of curing it could be found, it would be well nigh invaluable to the farmer and planter of the South. Mr. Lewis Bailey of Fairfax, in his *Essay on the Management of Milch Cows*, lately published in the *Southern Planter*, says it can be easily and economically cured by making a top stack of it, as they are now made in many places to hold shucks and pumpkins. Only he counsels that the layer of fodder be a good deal thicker than is usually put on the rails in that form of stack or shed. The plan having succeeded perfectly with him is well worth a fair trial by others.

"An Agriculturist," says the Richmond Dispatch, "who has tried the experiment satisfactorily, says that a few seeds of tomato dropped into the hill with cucumbers, or a tomato set out, which he says is the best, will keep off the black fleas and the striped bugs, as they dislike the flavor of that vegetable."

For the Southern Planter.

WATER FENCE.

Mr. Editor,—The following is a description of a good and substantial plan for a water fence, of which, if you think proper, you can give your readers the benefit. In the first place, cut a ditch across the stream of sufficient size to receive a log; after which commence to build on the log thus: in the ditch, at each end of and upon the log, pens to be filled with rock extending down the stream, say eight feet; upon those pens, at a distance from the log in the ditch, of say six feet, and about two or two and a half feet from and above the level of the log in the ditch, put across the stream a substantial log, which can be well secured by the pens and rock by the time the pens are high enough to join your fence to. After having thus well secured your two logs, take of white oak rails of the right length to reach from one log to about one foot over the upper log, (which will incline at about forty-five degrees,) place them at such distance apart as to prevent hogs from passing between, and secure them at bottom with a pin, and at top with a pin or spike, so as to keep them in place. The best height for the water fence is the lowest that will prevent hogs getting over, which will not require it to be high. Horses nor cattle will not attempt to jump it, as it will require a leap of some eight or ten feet to pass over it, which they would not do, if it was not in the water.

The advantages of this fence are, that it is very substantial, and as soon as the water commences to rise, it will pass over every thing that comes down the stream without hanging or breaking down, and when the water falls there is a good fence, which may require the grass and trash to be cleaned off, which can soon be done.

This description is much longer than I intended it, but I think it will give the plan.

W. M. E. G.

Weaversville, April 18, 1834.

TO GROW A BEAUTIFUL ARBOR.

Prepare a box of rich, mellow earth, and place it in the sunshine. Plant therein the seed of the "morning glory," which, of course, must be watered and cultivated in the ordinary way. When the vines commence to run, a lattice-work must be erected for its accommodation, in the following manner: Plant two small posts or poles as high as the arbor is desirable, parallel, and inclining towards the house or whatever you wish to shield from the sun, and from the direction that the sun comes, at an angle of about forty-five degrees. From one of these posts to the other, tie twines, or nail very small strips, at the distance of three inches apart, all the way up the posts, commencing some three feet from the ground. When the vine

commences running, its growth is very rapid, and it must not be neglected then, on pain of spoiling the beauty of the arbor. As soon as it is tall enough to reach the first twine or strip, attach it to it, and train it to follow across. When it has reached the opposite side, start it back on the next twine above, and so on, until it reaches the top. The leaves—being of that sort that follow the sun—will, at the heat of noon—the time when a shade is most required—all point in one direction, and, in consequence of the leaning position of the lattice-work, form a single roof that entirely excludes the rays of the sun. This arbor shingles so naturally and neatly, and the joints are so well closed, that it will even turn rain. On a bright summer morning, the front of this arbor presents the appearance of a broad platform of green leaves laid flat, with flowers sprinkled all over it. One can hardly form a conception of its beauty until he sees it. The flowering bean will form an arbor almost as pretty as the morning glory; and to either one of these arbors a matchless splendor may be added by planting "cypress vine," and training it so that it will freely intermingle with the branches of the other vines.—*Exchange*.

LIMA BEANS.—Observing, for several years, that those hills of Lima beans which were shaded by the others produced fewer and inferior crops than the vines exposed on the outer rows, I have adopted, with advantage, the plan of planting in borders, wherever I could put them without casting the shade on other crops. New hands pick their Lima beans, for winter use, in a young, unripened state; nothing could be more erroneous. Let them get nearly dry on their own vines, and soak them for use two nights before boiling, putting the water on them hot. It is a good plan to sprout the beans under a pane or two of glass before planting them round the poles.—*Horticulturist*.

PAYMENTS TO THE SOUTHERN PLANTER

To the 13th of February, 1854.

All persons who have made payments early enough to be entered, and whose names do not appear in the following receipt list, are requested to give immediate notice of the omission, in order that the correction may be made in the next issue:

| | |
|--------------------------------------|--------|
| J. A. Woniack to January 1855 | \$1 00 |
| Chas. Guerrant to July 1854 | 2 00 |
| William S. Harris to January 1855 | 1 00 |
| Joseph T. Henley to January 1855 | 1 00 |
| William T. Jolly to January 1855 | 1 00 |
| Joseph Jones to January 1855 | 1 00 |
| Ro. P. W. Fountleroy to January 1855 | 1 00 |
| Thomas Pratt to January 1856 | 2 00 |
| James Young to January 1855 | 1 00 |
| Col. William Bailey to January 1855 | 1 00 |
| F. B. Welton to January 1855 | 1 00 |
| Dr. D. S. Morgan to June 1855 | 2 00 |
| William J. Weir to January 1855 | 1 00 |
| H. A. Watkins to January 1855 | 1 00 |
| T. J. Randolph, Jr. to January 1855 | 1 00 |
| Dr. John M. Garnett to January 1855 | 1 00 |
| R. M. Garnett to January 1855 | 1 00 |
| John R. C. Taylor to July 1855 | 2 00 |
| S. C. Snead to July 1855 | 2 00 |
| William Old, Sr. to January 1854 | 5 00 |
| Ambrose Ford to January 1855 | 2 00 |

| | | | |
|--|--------|---|--------|
| Benoni Carlton to January 1855 | \$1 00 | Dennis Simmons to January 1855 | \$4 00 |
| William A. Cocke to January 1855 | 5 00 | William Callis to January 1855 | 1 00 |
| Dr. Wm. S. Brockenbrough to January 1855 | 1 00 | Buford Kirtley to January 1855 | 1 00 |
| Major J. A. Watson to January 1855 | 1 00 | Professor W. K. Pendleton to January 1855 | 1 00 |
| Joel Elam to January 1855 | 1 00 | Dr. P. B. Pendleton to October 1854 | 1 00 |
| T. H. Anderson to January 1855 | 1 00 | Powhatan Jones to September 1853 | 1 00 |
| Col. C. B. Killebrew to January 1855 | 1 00 | Dr. J. H. Ellerson to January 1855 | 1 00 |
| Dabney W. Waller to January 1855 | 1 00 | Ronald Mills to January 1855 | 1 00 |
| R. H. Dulany to September 1858 | 5 00 | W. J. Young to April 1855 | 1 00 |
| Dr. Austin Brockenbrough to January 1855 | 1 00 | Williamson Talley to January 1855 | 1 00 |
| W. B. Hudnall to July 1854 | 2 00 | Benjamin L. Holladay to January 1855 | 1 00 |
| A. G. Ashby to January 1855 | 5 00 | Morgan Utz to January 1855 | 1 00 |
| Dr. J. B. Floyd to January 1855 | | Thomas Scott to January 1855 | 2 00 |
| J. B. Smith to January 1855 | | J. R. Jones to March 1855 | 1 00 |
| Dr. A. W. Downing to January 1855 | | E. B. Jones to January 1855 | 1 00 |
| Dr. W. E. Brickhouse to January 1855 | | Andrew J. Wise to January 1855 | 1 00 |
| J. E. Humphreys, P. M. to Jan. 1855 | 2 00 | Thomas O. Rowlett to January 1855 | 1 00 |
| Madison Pitzer to January 1855 | | J. A. Starr to January 1855 | 7 00 |
| Dr. J. J. Williams to September 1854 | 3 00 | William B. Yancey to July 1854 | 2 00 |
| John Thomas Walker (in full) to Sept. 1854 | 5 00 | William S. Miller to January 1855 | 3 00 |
| J. B. Edwards to January 1855 | 1 00 | Henry Hill to January 1855 | 1 00 |
| Dr. J. T. Ligon to January 1855 | 1 00 | John Irvine to September 1854 | 2 00 |
| William B. Irby to January 1856 | 3 00 | Dr. C. Whitaker to January 1855 | 1 00 |
| Estate of Winter Bray (in full) to Jan. 1855 | 3 00 | J. B. Sinclair to January 1855 | 1 00 |
| Col. N. Goldsborough to January 1855 | 10 00 | Dr. W. S. Fowler to October 1854 | 2 00 |
| Edward M. Dawson to January 1855 | | Edmund Henshaw to July 1854 | 1 00 |
| M. Tilghman Goldsborough to Jan. 1855 | | B. Boykin to January 1855 | 1 00 |
| Edward Lloyd, Jr. to January 1855 | | E. C. Jordan to January 1855 | 2 00 |
| Capt. C. Lounds to January 1855 | | J. D. Whitelow to January 1855 | 1 00 |
| Kennedy R. Owen to January 1855 | | T. D. Morgan to January 1855 | 1 00 |
| William Hayward to January 1855 | | George H. Burwell to January 1855 | 1 00 |
| T. W. C. Loud to January 1855 | | W. H. Rector to January 1854 | 1 00 |
| George R. Goldsborough to January 1855 | | M'Laughlin & Carter to January 1855 | 1 00 |
| Thomas R. Holliday to January 1855 | | Thomas W. Jones to July 1854 | 1 00 |
| Thomas P. Williams to January 1855 | 2 00 | A. B. Nelson to July 1854 | 2 00 |
| Thomas R. Hughlett to January 1855 | | Robert Stringfellow to October 1854 | 2 00 |
| J. Lloyd Chamberlain to January 1855 | 1 00 | Granville I. Kelley to January 1855 | 1 00 |
| William H. Carter to April 1855 | | James F. Jones to January 1855 | 1 00 |
| Randolph Ammonette to January 1855 | 1 00 | John Brown to January 1854 | 1 00 |
| S. M. Kennedy to January 1855 | 1 00 | Thomas G. Gibson to June 1854 | 1 00 |
| Capt. H. Chandler to January 1855 | 1 00 | C. C. Beckham to June 1854 | 1 00 |
| Capt. John Milner to January 1855 | 1 00 | J. F. Hansbrough to January 1855 | 1 00 |
| James W. Conway to January 1855 | 1 00 | W. S. Major to January 1855 | 1 00 |
| John Garthright to January 1855 | 1 00 | J. C. Major to January 1855 | 2 00 |
| David Lee to January 1855 | 1 00 | Ambrose P. Hill to June 1854 | 1 00 |
| A. Phillips to January 1855 | 1 00 | John C. Green to June 1854 | 1 00 |
| Powhatan R. Page to January 1855 | 1 00 | Daniel F. Slaughter to June 1854 | 2 00 |
| William Hall to July 1854 | 1 00 | William B. Slaughter to June 1854 | 1 00 |
| D. C. Anderson to January 1855 | 1 00 | S. S. Bradford to June 1854 | 1 00 |
| Waller Taylor to January 1855 | 1 00 | John A. Inskip to June 1854 | 2 00 |
| H. T. Drewry to January 1855 | 1 00 | John H. Rixey to June 1854 | 1 00 |
| John Page to January 1855 | 6 00 | Dr. R. K. Long to June 1855 | 2 00 |
| E. J. Gresham to January 1855 | 1 00 | Dr. A. Taliaferro to June 1854 | 1 00 |
| Charles D. Pettus to January 1855 | 1 00 | John Wharton to June 1854 | 1 00 |
| John T. Anderson to January 1855 | 1 00 | Major R. C. Brown to June 1854 | 1 00 |
| William P. Tatum to January 1855 | 1 00 | James Wager to June 1854 | 1 00 |
| G. Boulware to January 1855 | 1 00 | James L. Stringfellow to January 1854 | 1 00 |
| Miss Mary Thompson to January 1855 | 1 00 | Dr. George Morton to January 1855 | 2 00 |
| L. M. King to July 1853 | 2 00 | Benjamin Parish to June 1854 | 1 00 |
| J. S. Cowan to January 1855 | 1 00 | George Ficklin to June 1854 | 1 00 |
| L. O. Byers to January 1855 | 1 00 | Holden Hudgins to January 1855 | 1 00 |
| Joseph Mann to January 1855 | 1 00 | Z. C. Vaughan to January 1855 | 1 00 |
| William B. Randolph to January 1855 | 1 00 | W. C. Bell to January 1855 | 2 00 |
| B. C. Jones to January 1855 | 2 00 | Estate of N. Bell (in full) | 6 00 |
| Lewis C. Botts to January 1855 | 1 00 | James A. Bell to January 1855 | 1 00 |
| William T. Noel to January 1855 | 1 00 | Col. J. Hargrave to January 1855 | 1 00 |
| William Grimes to January 1855 | 1 00 | William H. Trent to January 1855 | 1 00 |
| Capt. John Faulkner to January 1855 | 1 00 | William H. Taylor to July 1853 | 1 00 |
| George Blane to January 1855 | 1 00 | Charles Bruce to September 1856 | 2 00 |
| Robert Bunton to January 1855 | 1 00 | William G. Friend to January 1855 | 1 00 |
| William C. Tucker to January 1855 | 1 00 | O. N. Pemberton to June 1854 | 2 00 |
| Dr. George Field to January 1855 | 2 00 | Col. P. Withers to July 1854 | 1 00 |
| William Henderson to January 1855 | 1 00 | Garland T. Wheatley to September 1854 | 1 00 |

WILLIAM P. LADD,
APOTHECARY AND DRUGGIST,
 No. 319, head of Broad Street, Shockoe Hill, Richmond, Virginia.

DEALER in English, Mediterranean, India and all Foreign and Domestic Drugs and Medicines; also, Paints, Oils, Varnish, Dye-Stuffs, Window Glass, Putty, &c. For sale on the most accommodating terms.

Orders from Country Merchants and Physicians thankfully received and promptly attended to.
 ja 1851—tf

SINTON & SONS' NURSERY, NEAR RICHMOND, VIRGINIA.

As the season for planting has arrived, the subscribers would respectfully call the attention of their friends and the public generally, to their large and extensive collection of **FRUIT TREES**, embracing, perhaps, a selection that has not been surpassed, for the climate of Virginia, and nearly all propagated from fruit-bearing trees in their own orchard.

Catalogues, with directions for planting, may be had at William Palmer's Seed and Plough Store; at Peyton Johnston & Brother's Apothecary Store; at C. J. Sinton & Co's. Hardware Store, and at Logan Waller's Commission House, where any orders left will be punctually attended to, and letters addressed to the subscribers, Richmond, will receive prompt attention.

nov—if

JOSEPH SINTON & SONS.

AGENCY FOR THE PURCHASE AND SALE OF IMPROVED STOCK.

STOCK Cattle of all the different breeds, Sheep, Swine, Poultry, &c. will be purchased to order, and carefully shipped to any part of the United States, for which a reasonable commission will be charged. Apply to

AARON CLEMENT, Philadelphia.

Refer to Gen. W. H. Richardson, Richmond, Va.
 N. B.—All letters, post-paid, will be promptly attended to.
 ap—if

GENERAL AGENCY

For the Sale and Purchase of Lands.

FRANK: G. RUFFIN, Secretary of the Virginia State Agricultural Society, and **N. AUGUST, Notary Public and Accountant,** offer their services to the public as **GENERAL AGENTS** for the sale and purchase of lands in Virginia, and in the Southern and Western States. Those wishing our services, having lands for sale, are requested to furnish us with a full description of such property, and the terms, &c., upon which they are willing to sell; and those wishing to purchase are requested to inform us of the locality in which they wish to purchase, the price they are willing to pay, &c. Our charges will be moderate.

Office at the office of the Virginia State Agricultural Society.
 jan—if

STEPHEN H. FISHER, MANUFACTURER OF BOOTS AND SHOES, No. 228, Broad Street, north side, between 3d and 4th streets. Richmond, Virginia, keeps constantly on hand a full assortment of ready made Boots and Shoes of his own MANUFACTURE, for Ladies' and Children's wear, which he will sell as low as can be purchased in this city.

Boots and Shoes for Gentlemen and Boys on hand, or made to order at short notice.

Servants' Shoes of all qualities always on hand.

✂ All work warranted. ✂

✂ Farmers are invited to give him a call.

oc—ly

FRUIT TREES, &c.

I HAVE for sale, a choice lot of **PLUM AND PEAR TREES**, of the following named varieties: *Plums*—Coe's Gold Drop, Monroe, Royale Hative, Yellow Egg, or Magnum Bonum, McLaughlin, Bleecker's Gage, Smith's Orleans, Coe's Late Red, Columbia, Long Scarlet, Prince's Imperial.

Standard Pears, on Pear Stock—Van Mons, Beurre Deil, Osband's Summer, Stevens' Genesee, White Doyenne, or Virgalieu, Canton, Onondaga Tyson.

Dwarfs, on Quince Stocks—Soldat Saboren, Doyenne de Pais, Louise Bonne de Jersey, Beurre Goubalt, Van Mons Leon le Clere, Beurre Capiamount, Glout Morceau, Stevens' Genesee, Madeleine, Dearborn's Seedling, Bartlett, White Doyenne, Tyson.

✂ Also, Grape Vines, Asparagus Roots, Rhubarb, Strawberry and Raspberry Plants of different varieties, Roses, Magnolias, Evergreens, Green-house Plants, &c. &c.

JAMES GUEST,

Hollywood Nursery,

Square above the new Western Square,

Richmond.

feb—tf

ZIMMERMAN & CO'S CELEBRATED PATENT PREMIUM THRESHER, CLEANER AND BAGGER,

which received the first premium at the Crystal Palace, New York, this making ten premiums in two seasons, in competition with the most celebrated Separators of the day; proving conclusively, that simplicity in construction, cheapness in price and durability in machine, is being fully appreciated, and the old complicated costly separators must yield their place to a superior machine. This Machine, for threshing, separating, cleaning twice, screening and bagging, (by one simple operation,) all kinds of Grain—the greatest labor-saving machine extant; for simplicity, durability, cheapness and capacity, it has no rival in the world. It is capable of turning out, ready for the mill or for seed, from 300 to 500 bushels of wheat per day, with six or eight horses, and eight hands—or from 500 to 800 bushels with twelve horses and as many hands, doing the work cleaner, and breaking less grain, than any machine now in use. This machine received the first premiums at the Maryland State Fair, Baltimore, in 1852 and 1853; the Washington County Maryland Fair; Valley Agricultural Fair of Virginia, in 1852 and 1853; the Rappahannock Agricultural Society, at Port Royal, Virginia; Indiana State Fair, Indianapolis, 1853.

This machine is so simple in construction, that the one fan and shoe completely cleans and bags the grain, dispensing with all the complicated machinery (and consequent liability of derangement) in all other separators, thus making it more desirable to the farmer.

✂ **SHOP PRICES OF ZIMMERMAN & Co's THRESHER, CLEANER, BAGGER AND POWER**—Thresher, Cleaner and Bagger complete, 6 and 8 horses, \$175; Power for same, \$100—making \$275 for the whole complete. Thresher, Cleaner and Bagger, 36 inch Cylinder, \$200; Power for same, \$135, for 8, 10 and 12 horses. This machine is complete with Band, Wrenches, &c.

✂ **REFERENCES.**—Samuel Sands, Esq., Editor of the "American Farmer;" Col. Edward Lloyd, Easton, Md.; Capt. D. Cox, Northumberland county, Va.; Hill Carter, Esq., Richmond; Richard Willis, Esq., Richmond; Col. Charles Carroll, near Ellicott's Mills, Md.; F. Nelson, Esq., Richmond; Col. B. Davenport, Jefferson county, Va.; Dr. Harding, Northumberland county, Va.; Captain Harding, Northumberland county, Va.; Hugh Nelson, Esq., Clarke county, Va.; Charles Mason, Esq., King George county, Va.; S. W. Thomas, Esq., Clarke county, Va.; Dr. T. J. Marlow, Frederick city, Md.; David Boyd, Esq., Frederick city, Md.; Ezra Houck, Frederick city, Md.; Samuel Holt, Middletown Valley, Md.; John Clagett, Hagerstown, Md.

✂ The above machines are manufactured in Charlestown, Jefferson county, Virginia. All orders addressed to us will be attended to with promptness, and all Threshers sent out warranted to come up to the standard.

ZIMMERMAN & CO.

ap—3t*

STOVES AND FANCY IRON CASTINGS,

*Exhibited at the Virginia State Agricultural Fair,
By Messrs. Bowers, Snyder & Carter.*

THESE Gentlemen erected Works, about two years since, by which they have been extensively supplying the State with articles for which we have heretofore depended entirely upon northern foundries.

Their Cooking Stoves have given entire satisfaction to all Virginia housewives who have used them. On the door of one of these we notice a representation of a sheaf of wheat, in which the heads and even the distinct grains stand out in beautiful relief.

They exhibit a specimen of parlor stove especially worthy of notice. Its style and finish are highly ornamental. Its chief merit consists of a door designed to increase the draught of the fire, which is made to revolve vertically upon a pivot.

These manufacturers, in a modest, unpretending way, are rendering good service to the State, by developing her resources in this branch of domestic industry.

E. B. SPENCE,
H. M. SMITH,
JAMES PAE,

Committee on Household Implements.

I have sold principally, for the past two years, the stoves manufactured by Messrs. Bowers, Snyder & Carter, at the Richmond Stove Works, and have found them to give my patrons entire satisfaction, both in their operation and durability.

CHARLES D. YALE,

130, Main Street, Richmond, Virginia, Depot for
Bolton & Yale's "Caloric Air Furnace."
jan 1854—ly

EAGLE FOUNDRY.

THE subscriber having removed to the large Foundry, just erected by him and fitted out with machinery of the latest and most approved style, is, in addition to the manufacture of Tobacco Flattening Mills, prepared to receive orders for Stationary Steam Engines, Saw and Grist Mills, Agricultural Machines, Tobacco Presses of every description, and all kinds of Iron and Brass Castings. He pledges himself to execute faithfully, and with dispatch, all work entrusted to him, and respectfully solicits a call from his friends and the public generally.

The highest cash prices paid for old cast iron, brass and copper.
PHILIP RAHM,
ja—ly Cary, between Pearl and 15th sts.

WANTED, an Overseer who understands the management of Stock as well as the cultivation of Wheat and Corn, to go to Matthews county, Virginia. None need apply without the best recommendations as to qualification, character and industry. Apply to
ap—3t* PUBLISHER OF SO. PLANTER.

HAY PRESS.—I am making a superior and highly approved Hay Press, with which three men can compress from three to five tons of hay per day. It attracted much attention at the late fair, and was awarded the highest premium.
H. BALDWIN,
mar—3t 148 Main Street, Richmond.

BROWN & SHOOK, General Commission and Forwarding Merchants, corner Union and Franklin streets, Richmond, Virginia. All business carefully and promptly executed.
mar—ly

UNITED STATES HOTEL,

(FORMERLY UNION.)

*Corner of Main and Nineteenth Streets, Richmond,
J. E. NORRIS, PROPRIETOR.*

mar—tf Price of Board, per day, \$1 50.

SUPERIOR SWINE AND PREMIUM POULTRY.—
SI am prepared to engage pigs by my large Byefield and superior Suffolk boars, from matchless sows of the following breeds: Byefield, Suffolk, Skinner, Essex, Chester, Delaware, Cheshire and Russian—most of them of mammoth size.

The finest collection of ornamental and domestic Poultry in Virginia—receiving the premium as the finest collection and upon individual pairs. They consist of the following: Brahma Pootra, Imperial Chinese, Colatta, Dorking, Spangled Hamburg, Seabright and African Bantams, Sumatra Pheasant Game, Ablin Game, Mexican Game, Ebon Game, Crested Turkey, Purple Turkey, Pure White Turkey, Bremen Geese, Hong Kong Geese, Wild Geese, Crested Black and White Ducks, Java Ducks, Penguin Ducks, Rouen Ducks, Aylesbury Ducks, Pure White Guinea Fowls, Italian Pea Fowl, Madagascar or Lopped Eared Rabbits—ears 22 inches long, 5 broad.

The above are bred in separate apartments, and can be obtained at moderate prices by addressing

JOHN G. TURPIN,
mar—tf Clover Dale, near Petersburg, Va.

GREAT REDUCTION IN PRICES OF HATS AND BOOTS.—**J. H. ANTHONY'S FASHIONABLE HAT STORE**, Columbian Hotel Corner. The cheapest place in the city of Richmond to buy hats and boots is at the above store, where every article sold may be relied on as represented. By this means he has gained a good run of custom, and his customers feel satisfied. Below is a list of his prices, which will be strictly adhered to:

| | |
|--------------------------------|--------|
| Best quality moleskin, - - - | \$3 50 |
| Second quality moleskin, - - - | 3 00 |
| Best quality silk, - - - | 2 50 |
| Second quality silk, - - - | 2 00 |

Fine Calfskin Sewed Boots only three dollars and fifty cents.

Also, Caps, Shoes and Umbrellas.

J. H. Anthony has made an arrangement with one of the best makers in the city of Philadelphia to supply him with a handsome and substantial calfskin sewed Boot, which he will sell at the unprecedented low price of three dollars and fifty cents. The attention of gentlemen is respectfully solicited, as they are the best and cheapest boots that have ever been offered for sale in this city. He intends to keep but the one kind, and sell them at one price. mar '54—tf

AGRICULTURAL WAREHOUSE.—The subscriber continues to manufacture Agricultural Machines, viz. Horse Powers, Threshers, Fan Mills, Hunt's Patent Wheat Drill, Hay Rakes, Hay Presses, Straw Cutters, Corn Shellers, Hillside and Subsoil Ploughs, Corn and Cob Crushers, Cultivators, Harrows, &c., all of which will be made in the best manner and the most approved patterns. My Horse Power and Thresher, with self-oiling box, have been in use three seasons, and uniformly pronounced the best in use.

Machines repaired, Castings in Iron and Brass furnished at short notice.

H. BALDWIN,
mar—3t 148 Main Street, Richmond.

MANNY'S PATENT REAPER AND MOWER.—This machine has been extensively tested for the last two years in the Northern and Western States, and pronounced the best in use—a premium has been awarded to it at every fair at which it has been exhibited. It is desirable that those who may want a Reaper, or Reaper and Mower, should forward their orders early, to avoid disappointment.

H. BALDWIN,
mar—3t 148 Main Street, Richmond.

LIVE STOCK AGENCY.—In compliance with repeated solicitation, the subscriber offers his services for the purchase of Horses, Cattle, Sheep, Swine and Poultry. His long acquaintance with different breeds and breeders of these animals, gives him superior facilities for procuring the best.

SANFORD HOWARD,

Office of the Boston Cultivator, Boston, Mass.

N. B.—Some of the best Suffolk and Essex Pigs can be had in this section, at \$30 per pair, at two months old.

mar—3t

PREMIUM THRESHERS.

FARMERS WISHING TO OBTAIN these superior machines, will secure themselves against disappointment and confer a great favor upon the subscriber by giving their orders as early as convenient.

My threshers, so long regarded as superior by all who have used them, have when brought in competition with all the best machines of Northern as well as Southern Manufacturers at the late *Virginia State Fair*, received so marked a distinction, by the award of the first premium, that I need only refer to the official report of the committee in the Jan. number of the *Southern Planter* to satisfy all who wish to purchase.

The Pitts Patent Thresher, with separator and cleaner attached, to clean wheat or other grain at one operation, is placed prominently in advance of all machines aiming to accomplish this object by having the first premium offered for the best machine for this purpose awarded to it. Although the one exhibited by me was a very rough one, and gotten on the ground in a great hurry and exhibited without even a decent coat of paint upon it—and under many other disadvantages. The machine manufactured for the exhibition could not be gotten here in time.

Persons wishing to procure this superior and justly celebrated machine, may obtain full description of its peculiar advantages and adaptedness for large estates or for a travelling machine to thresh for toll, by addressing the subscriber, who is sole agent here.

I have a few of the above machines ready for work, but on account of the heavy expense of getting them up, and the length of time necessarily consumed in doing so, it is very important to get all orders as early as possible.

Price of horse power, with thresher, separator, and cleaner, in one frame and mounted upon wheels for moving from field to field or from farm to farm, is \$400. This machine can be seen at my Factory, and any inquiries by letter will be answered promptly.

Premium Straw Cutters.

In calling attention to my large stock of implements, comprising Threshers of all sizes, Horse Powers from 4 to 10 horses, Wheat Fans, Cornshellers, Seed Drills, *Horse rakes*, Cradles & Scythes, Hay Presses, Hussey, and McCormick Reapers, &c.

I wish to ask especial attention to my Patent Straw Cutter for hand purposes. This machine received the first premium at the Virginia State Fair, and also at the Rappahannock River Society's Fair, and at the Norfolk Fair, and has the unqualified recommendation of many thousands now using them. Price \$10, warranted to give satisfaction on trial. I am also manufacturing Smith's *patent double plough*, known as the Michigan Double Plough. This plough received the first premium offered for a three horse plough, which was divided between the subscriber and Mr. French, who exhibited the same plough, as will be seen by official report in *Planter* as above.

I have Hussey's Reapers ready for the next harvest; please call and examine.

H. M. SMITH.

feb—4t

BOOKS, PIANOS, MUSIC, &c.

JAMES WOODHOUSE, Wholesale and Retail Dealer in BOOKS, PIANO FORTES, STATIONERY, MUSIC, &c. 139 Main St., Richmond, Virginia. Constantly on hand, a full supply of standard AGRICULTURAL WORKS.

oc—1f

A. MORRIS, 97 Main Street, is constantly supplied with all New and STANDARD AGRICULTURAL WORKS. The subscriber respectfully invites the attention of the public to his extensive assortment of Books on Agriculture, among which may be found—

The Chemical Field Lectures for Agriculturists, by Dr. J. A. Stockhardt; translated from the German: edited with notes by James E. Teschemacher.

The Field Book of Manures, or the American Muck Book; treating of the nature, properties, &c. of all the principal manures in common use, by D. J. Brown.

The American Farm Book, or Compend of American Agriculture, being a practical treatise on soils, manures, draining, &c. and every staple product of the United States, with the best methods of planting, cultivating and preparation for market, by R. L. Allen

Elements of Agricultural Chemistry and Geology, by James F. W. Johnston, M. A.

The Monthly Journal of Agriculture, containing the best current productions in promotion of agricultural improvement, including the choicest prize essays issued in Europe and America, with original contributions from eminent farmers and statesmen, 3 vols. 8vo., John S. Skinner, Editor.

The Principles of Agriculture, by Albert D. Thaër.

The Farmer's and Planter's Encyclopædia of Rural Affairs, embracing all the most recent discoveries in agricultural chemistry, adapted to the comprehension of unscientific readers, by C. W. Johnson, Esq.

European Agriculture and Rural Economy, from personal observations, by Henry Colman.

Chemistry in its Application to Agriculture and Physiology, by Justus Liebig, M. D.

The Book of the Farm, detailing the labors of the farmer, ploughman, field worker, &c., by Henry Stephens.

Elements of Scientific Agriculture, or the Connection between Science and the Art of Practical Farming, by John P. Norton, M. A.

An Essay on Calcareous Manures, by Edmund Ruffin: 5th edition, amended and enlarged.

The Farmer's Barn-Book, by Clater, Youatt, Skinner and Mills.

Together with many other valuable works on farming, the treatment and management of cattle, &c.

A. MORRIS,

Bookseller, Stationer, and Dealer in
feb—tf Piano Fortes, 97 Main street.

ALBEMARLE PIGS.

I AM prepared to receive orders for Albemarle Pigs—a breed made by crossing several varieties, which will grow to good size, and fatten easily at any age. This breed received some of the highest prizes at the Virginia State Fair. I have, also, four boar pigs, from my large Delaware Sow, (estimated to weigh, nett, near one thousand pounds,) which will be ready for delivery in a few weeks. Address, (post paid,) JOHN R. WOODS,

ja—tf

Woodville Depot, Albemarle, Va.

ANALYSIS OF SOILS, &c.

THE undersigned is prepared to execute the analyses of Soils, Guano, Marls, Plaster, &c. &c. at the Laboratory of the Virginia Military Institute. Packages may be forwarded through Webb, Bacon & Co. Richmond, or Echols & Pryor, Lynchburg.

Persons desiring further information will please address WILLIAM GILHAM,

Prof. Chemistry and Agriculture, V. M. I.
Feb. 1, 1852. Lexington, Va.

KOSSUTH.



THIS fine bred young TROTTING STALLION having commenced his season at the stable of the subscriber, on the Mechanicsville Turnpike, one mile from the city of Richmond, will, on the first of April, be at the farm of Mr. Thomas J. Dean, four miles above Goochland Court House, where he will also make a regular stand of two days in each week throughout the season. In passing Mr. Sam'l Duval's, (Powel's old tavern,) he will make a short stay, giving those in that neighborhood an opportunity of securing his services. The season to close on the 1st of July.

TERMS.—\$20 the season, if paid previous to the 1st of July, or \$25 after that time; and \$30 to insure—insurance forfeited by parting with a mare, and all mares considered by the season, unless expressly understood to the contrary. Groom's fee \$1.

KOSSUTH was foaled in Columbia county, State of New York, on the 9th of July, 1847; is a beautiful rich dark brown, five feet two and a half inches high, of great muscular power and symmetry of form, docile disposition, and can trot his mile inside of three minutes, and has been pronounced by trainers the most promising young horse they had ever seen. His colts, dropped last spring, are equal to any in the State, and as a proof of it, \$200 a piece has been refused for several of them when six months old.

PEDIGREE.—Was sired by the renowned trotting horse New York Black Hawk, out of the trotting mare Lady of the Lake. The sire of Black Hawk was the celebrated stallion Andrew Jackson, (the sire also of Kemble Jackson, Henry Clay, Miller's Damsel, and a large number of other fast ones,) the fastest trotting horse of his day—having beaten Daniel D. Tompkins, Fire King, Lady Warrington, Modesty and others. He was sired by Young Bashaw, who was by imported Grand Bashaw, and he by Wildair, and Wildair by Cade, who was by the Godolphin Arabian. The dam of Andrew Jackson was Whynot, and she by imported Messenger.

Black Hawk's dam was the distinguished trotting mare Sally Miller, who has trotted her mile in two minutes and thirty seconds, and was not excelled by any horse of her time. She was got by Tippoo Saib, and he by imported Messenger, her dam by Gunpowder. Black Hawk's time with heavy weight is the best on record up to the time of his death, and established his claim to be the best trotting stallion in America.

PERFORMANCES OF BLACK HAWK.—November 17th, 1847, beat Jenny Lind over the Union Course, match \$500, mile heats—Black Hawk to a 250 lb. wagon, Jenny Lind to a skeleton wagon, weighing about 75 lbs.—winning the first and third heats in 2:40—2:43; Jenny Lind winning the second in 2:38.

April 25th, 1848, beat Lady Sutton over the Union Course, in a match for \$700, with an inside stake of \$500, mile heats, best three in five, 250 lb. wagons—time, 2:43—2:43—2:42—2:45½.

May 15th, 1848, beat Americus over the Union Course in a match for \$2000, three mile heats, to 250 lb. wagons—time, 8:31—8:36; for further performances, see Turf Register for 1847 and 1848, where will also be seen the challenge of his owner to trot him against any horse in the world, for any amount, from \$500 to \$5000, which challenge never was accepted. Subsequently, \$13,000 was refused for him. Honest John, half brother to Kossuth, has also distinguished himself on the turf, as a horse of uncommon speed and power, with heavy weight.

In 1850, he started ten times for purses and stakes, and won eight.

In 1851, he started eight times, winning five.

June 22d, 1852, over the Union Course, he beat Black Harry, in a match for \$1200, two mile heats, to wagons—time, 5:27—5:28.

October 18th, 1852, for a purse and stake of \$550, he beat True John, two mile heats, to 250 lb. wagons—time, 2:23½—5:37½.

June 1st, 1853, Kemble Jackson, (half brother to Black H. wk.) trotted over the Union Course against five of the best horses in this country, for a stake and purse of \$4000, three mile heats, to 250 lb. wagons, winning in two straight

heats without making a break, in the unparalleled time of 8:03—8:04½, and for whom his owner refused \$16,000.

September 21st, 1853, Miller's Damsel, (half sister to Black Hawk,) in a match for \$500, over the Centreville Course, beat Jenny Lind, mile heats, best three in five, to wagons—wagon and driver weighing 470 lbs., winning the first, third and fourth heats—time, 2:49—2:46—2:47.

October 19th, 1853, in a match for \$500, over the Centreville Course, mile heats, best three in five, to 250 lb. wagons, beat Lady Haynes in three straight heats—time, 2:43—2:47—2:49.

April 21st, 1853, Black Douglass, a grandson of Andrew Jackson, made his first appearance on the turf over the Hunting Park Course, in a match with Flora Temple, for \$500, mile heats, best three in five, in harness, and won in three straight heats—time, 2:35½—2:30½—2:35.

Cassius M. Clay, to whom was awarded the first premium, last October, at the Springfield, Massachusetts, National Horse Exhibition, is also a grandson of Andrew Jackson.

Lady of the Lake, the dam of Kossuth, without training has trotted her mile in 2:49, and as a roadster, was not surpassed for game and endurance. She was by Sherman Morgan; her dam a thoroughbred Mambrino mare.

Thus it will be seen that Kossuth is not a chance horse, but belongs to a trotting family, and the very best in America, and traces his blood through a long line of choice ancestors—all celebrated for speed and great endurance—and goes back to some of the purest Arabian and English horses; and I assert, without fear of contradiction, that he is the best bred trotting stallion that has ever crossed the Potomac.

Persons wishing to breed fast and serviceable road stock, are invited to call and examine the horse, and they can also have an opportunity to see him move, and I think I can satisfy them that he is not only a descendant of trotters, but is himself a TROTTER HORSE.

Persons sending mares from a distance can have them well taken care of at my stable at forty cents per day, and those sent to Mr. Dean's farm, at a reasonable price.

RICHMOND, April, 1854.—tf

H. J. SMITH

AT THE SOUTHERN AGRICULTURAL IMPLEMENT MANUFACTORY AND SEED STORE, can be found a large collection of the strongest and most useful articles for the Southern farmer, as will be seen by reference to the report of the committee on that branch at the Virginia State Agricultural Fair, held here in November last, that the premium for the largest, strongest and most useful collection of Implements was awarded to Mott, Lewis & Co. We are daily adding to our assortment from our large Machine Depot, Ploughs of all kinds from the most approved patterns now in use. Among them may be found the justly celebrated Wiley or Mott Plough, with double points; Minor & Horten of Nos. 18, 18½ up to No. 22; Hitchcock, Nos. 21 and 21½; improved Davis', both wrought and cast share; improved McCormick, improved Livingston, from the original patterns, and many other kinds too numerous to mention. Also, castings for all ploughs, by the piece or ton; Corn-Cultivators of different kinds; Tobacco Cultivators; Harrows, from one-horse up to four-horse; Corn Shellers, from the single spout up to the Virginia Sheller and the Premium Mumma Sheller; Corn and Cob Crushers; Straw Cutters of all patterns from \$7 up to \$55; Grain Cradles of the most approved patterns; Grass Snathes; Churns, Ox Yokes, Store Trucks, Hay and Straw Forks, from 62½ cents up to \$1 50; Spades, Shovels, and many other articles too numerous to mention. Also, Landreth's best Garden and Field Seeds. All of which will be sold on as reasonable terms as they can be had from any Northern city. Call and examine for yourselves.

MOTT, LEWIS & WILLSON,

ap—4t Sign of the Plough, No. 36 Main Street.

M'CONNELL & BURTON,

DENTISTS,

Main Street, between 9th and 10th Streets, Richmond, Va.

JOHN M'CONNELL.

W. LEIGH BURTON.

ap—tf

GENERAL AGENCY AND COMMISSION BUSINESS.—The subscriber tenders his thanks for the many calls heretofore received, and again offers his services on reasonable terms. Now for sale many Farms in Maryland and Virginia, Stallions, Bulls, Bucks, Boars, of improved stock; improved Fowls of all kinds; Mares, Cows, Ewes, Sows; Ewes one-half and three-fourths Cotswold; Calves at three months old, one-half Alderney; South Down Ewes with their lambs. For particulars address (post paid) the subscriber,
MARTIN GOLDSBOROUGH,
 38 Holliday Street, Baltimore, Maryland.

P. S.—Answers to letters particularly desired. M. G.
 may—tf

REMOVAL.—**SAMUEL SUTHERLAND** respectfully informs his friends and the public that he has removed his **GUN and PISTOL STORE** from his late stand, opposite the Banks, to a house opposite Eagle Square, in room No. 132, which has been handsomely fitted up, especially for the accommodation of himself and his patrons, and where he is now opening a new and splendid assortment of Guns, Pistols, Cutlery, Canes, Fishing Tackle, and all kinds of goods desired by Southern Sportsmen, embracing many articles useful to farmers and housekeepers generally—all of which he offers at reasonable prices, by wholesale or retail. Thankful for past favors, he respectfully invites his friends and customers to call and see him at his new stand.
 may—3t

VALUABLE ALBEMARLE FARM FOR SALE.—The subscriber offers for sale that valuable and well known farm, the D. S., situated on the waters of Ivy Creek, $3\frac{1}{2}$ miles from the University of Virginia, $4\frac{1}{2}$ miles from Charlottesville, and immediately on the Staunton and Charlottesville Turnpike, and Virginia Central Rail Road, in one of the most beautiful sections of the State, and in a neighborhood long proverbial for its highly cultivated society, its fertile lands, its pure and abundant water and general healthfulness; also possessing the greatest facilities to the best of markets. The D. S. contains 695 acres, about one hundred acres in timber, and the balance in a fine state of improvement. It has for many years been considered one of the most productive farms in the county, producing finely all the various crops of this section. There is an abundant supply of running water in every field, and large portions of the farm could be converted into watered meadow. The improvements are good and of every variety. Being anxious to sell, terms will be made very accommodating. Address
GEO. B. STEPHENS,
 ap—tf Woodville Depot, Albemarle, Va.

SUTTON & BROTHER, Commission and Forwarding Merchants, north side Basin, between 11th and 12th streets, Richmond, Virginia, will give their personal attention to the sale of Flour, Tobacco, Wheat, Corn, and all kinds of Country Produce; also to the purchase and shipment of Guano, Plaster, Agricultural Implements, &c., and will attend promptly to the forwarding of all articles intrusted to their care.

REFERENCES.—Messrs. Kent, Paine & Kent, Richmond; Sterling Claiborne, Esq. Nelson; Daniel H. Hoge, Esq. Montgomery; George D. Davis, Esq. Lynchburg; Dr. Archibald Graham, Board of Public Works; Hon. R. M. T. Hunter, Virginia; Hon. Paulus Powell, Virginia; John I. Donaldson, Esq. Baltimore; Messrs. Conkling, Barnes & Shepherd, New York; Messrs. Blair & Merwin, New York.

N. B.—Liberal advances made on consignments.

FRANCIS V. SUTTON, Jr.
CORYDON H. SUTTON.
 ap—2t*

PREMIUM WHEAT FANS.—We are sole Agents for the Rockaway Fan, for which the premium was awarded at the Virginia State Agricultural Fair in November last, and are prepared to receive orders for the same at the manufacturer's prices in Baltimore. We have also for sale Hickok's Premium Cider Mill, at manufacturer's price; Taylor's Patent Hames, the very best article now in use. All of which we shall be happy to supply our customers with at our Southern Agricultural Implement Manufactory and Seed Store, sign of the Plough, No. 36 Main Street.
 ap—4t

MOTT, LEWIS & WILLSON.

SOUTHERN AGRICULTURAL IMPLEMENT MANUFACTORY AND SEED STORE.—We would call the particular attention of farmers to our Horse-Powers and Threshing Machines, that we and many others consider the best in use, on account of simplicity, durability and economy to the user; easy kept in order, giving little or no dust to the feeder; the strongest and most durable in use. We call the attention of those in want to send in their orders as early as possible, as we do not wish to disappoint any who may be in want of a good machine, as we were unable to supply the demand last year for a great many, owing to not receiving the orders in time. We build from four-horse sweep power to twelve-horse. Also Mott, Lewis & Willson's Wrought Iron Railway Horse-Power for one or two horses. All of which we warrant to give entire satisfaction, and do more work in a given time, according to team, than any machine in this State. We will refer to a few gentlemen, if necessary, who live in different counties, and have used our machines, so that those who are in want of a superior machine can inquire of its merits: Francis Nelson, G. T. Brumly and Dr. L. C. Crump, New Kent; Col. Thomas Willcox, Dr. William A. Selden and Dr. James Willcox, Charles City; Dr. N. M. Osburn, Prince George; J. P. Taliaferro, York county; Fielding Taylor, T. M. Stubblefield, William H. Roy and W. P. Smith, Gloucester; Henry Cox, Henrico; George Taylor, Hanover; William M. Harrison and H. L. Brook, Richmond city; Colonel Hancock and A. W. Dunn, Chesterfield; Robert Dunn, Petersburg; Hon. Wm. S. Archer, Dr. Scott, V. Archer and W. V. Southall, Amelia; William E. Green, Charlotte; Randolph Harrison and Julian Harrison, Goochland; I. R. Barksdale, Albemarle; D. C. DeJarnett, Caroline; Col. C. G. Coleman, Louisa; H. M. Nelson, Clarke, and many other gentlemen, who have used our machine, and any of those gentlemen will, with pleasure, give their opinion of its qualities. We also manufacture Zimmermann's Improved Machine for threshing, cleaning and bagging at one operation. This machine is gotten up in the best manner, of the best materials, and warranted to perform well. It has taken the premium over the Pitts' New York or Buffalo Machine at several fairs, and it is classed a No. 1 machine. We manufacture three sizes, 24, 30 and 36 inch machines, four, eight and twelve-horse powers, and cheaper than any other machine for the same purpose. Those who are in want of a first class Thresher will please send in their orders early. Thankful for past favors, we shall endeavor to merit a continuance of the same.

MOTT, LEWIS & WILLSON,
 Sign of the Plough, No. 36 Main Street.

ap—3t

LAND FOR SALE.—Two tracts, one of $337\frac{1}{2}$ acres, near New Glasgow, good improvements, red soil, very sure for wheat; part in clover and timothy. Also, 993 acres, within five miles of Buffalo Springs, thirteen of the Canal; fine tobacco and grain land, with three tenements; about four hundred acres cleared and in good heart. Post paid letters for particulars, directed to New Glasgow, Amherst, Virginia, will be promptly attended to.
 mar—3t*

I. I. & J. M. HITE.

J. W. SMITH, PLUMBER AND GAS FITTER, 13th Street, between Main and Cary, Richmond, Va. Bath Tubs, Water Closets and all other Water Fixtures, Gas Pipe and Fixtures put up to order; Hydraulic Rams, Lift and Force Pumps for Farms, Rail Road Stations, Mills, &c. &c. put up at short notice. Orders from the country promptly attended to.

J. W. S. will attend to laying down Cast Iron Pipe for Water or Gas Works in any part of the United States.
 mar—tf

PURE GAME FOWLS.—The subscriber takes pleasure in the announcement to the public of his stock of Game Fowls, which he keeps on hand and for sale. Thorough-breds from the best stock of Earl of Derby, Brush Head, Mexican, Guillotine and Creole Game. Prices ranging from two to ten dollars per pair, according to quality and age. Fowls sent to any part of the United States in good order.
 Address **JOHN M'L. ANDERSON,**
 ap—tf Ruther Glen P. O., Caroline Co., Va.

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DR. McLANE'S VERMIFUGE.

During a practice of more than twenty years, Dr. McLane had attended innumerable patients afflicted with every form of worm disease, and was induced to apply all the energies of his mind to the discovery of a vermifuge, or worm destroyer, certain in its effects; the result of his labors is the American Worm Specific, now before the public, which is perfectly safe, and may be given alike to children of the most tender age, or to the aged adult; it purges mildly and subdues fever, and destroys worms with invincible success. It is easy of administration, and as it does not contain mercury in any form whatever, no restrictions are necessary with regard to drinking cold water, nor is it capable of doing the least injury to the tenderest infant. An incredible number of worms have been expelled by this great vermifuge.

Purchasers will please be careful to ask for Dr. McLane's Celebrated Vermifuge, and take none else. All other vermifuges, in comparison, are worthless. Dr. McLane's genuine Vermifuge, also his Celebrated Liver Pills, can now be had at all respectable drug stores in the United States and Canada.

THE GREAT RESTORATIVE.—FEVER AND AGUE CURED BY DR. McLANE'S LIVER PILLS.—Mr. Jonathan Hougham of West Union, Park county, Illinois, writes to the proprietors that he had suffered greatly from a severe and protracted attack of fever and ague, and was completely restored to health by the use of the Liver Pills alone. These pills unquestionably possess great tonic properties, and can be taken with decided advantage for many diseases requiring invigorating remedies; but the Liver Pills stand pre-eminent as a means of restoring a disorganized liver to healthy action; hence the great celebrity they have attained. The numerous formidable diseases arising from a diseased liver, which so long baffled the skill of the most eminent physicians of the United States, are now rendered easy of cure, thanks to the study and perseverance of the distinguished physician whose name this great medicine bears—a name which will descend to posterity as one deserving of gratitude. This invaluable medicine should always be kept within reach; and on the appearance of the earliest symptoms of diseased liver, it can be safely and usefully administered.

Purchasers will please be careful to ask for Dr. McLane's Celebrated Liver Pills, and take none else. There are other pills, purporting to be liver pills, now before the public. Dr. McLane's Liver Pills, also his Celebrated Vermifuge, can now be had at all respectable drug stores in the United States and Canada.

For sale by
may—1t

PURCELL, LADD & CO.

Corner Main and 14th street, Richmond.

GREAT PREMIUM FAN, patented December 20, 1853. Montgomery's Celebrated Double Screen Rockaway Wheat Fan, has, during the past year, been proved to be the best Fan ever offered in the Middle States, having taken premiums over all that have been offered to the public from every quarter of the United States. It took the first premium at the Maryland State Agricultural Society's Exhibition, in October last, where all the most celebrated Fans were in competition.

The first premium at the Virginia State Agricultural Society's Exhibition, in November last.

The Maryland Institute awarded silver medals to it at its Exhibitions in 1852 and 1853, as superior to all others on exhibition.

The first premium was awarded at the Talbot County (Maryland) Show, in 1852; and

The first premium at the Prince George's County (Maryland) Exhibition, in 1853, by the special vote of the Society, in consequence of its superiority and value, it being contrary to their standing rules to award premiums to articles made out of the country.

We annex the following certificate from a respectable farmer of St. Mary's county, and any number of others could be published if necessary, all tending to show the decided superiority of this Fan over any others that have ever been introduced in the Middle States—and as the manufacturers devote their whole attention to this one article, and rely for its continued success upon the faithfulness of its make, as well as the superiority of its principles of construction, farmers and others may rely on having their Fans made of the best materials and workmanship.

ST. GERAMERS, ST. MARY'S CO., MD., Oct. 6, 1853.

This is to certify, that I have tried Messrs. J. Montgomery & Brother's Wheat Fan in some tailings I made in cleaning a part of my crop, which I did not think could be made worth anything; it extracted from a bushel and a half of filth about three pecks of pure wheat. I must say that I never saw a Fan that can even come in competition with J. Montgomery & Brother's Rockaway Wheat Fan, for screening wheat.

BENJAMIN M'KAY.

REFERENCES.

City of Baltimore: John S. Williams, foot of Commerce street; Messrs. Seth & Godwin, No. 4 Bowly's wharf; E. B. Harris, No. 4 Bowly's wharf; Michael Dorsey, Light street; Thos. J. Hall, Light street; N. E. Berry, Lombard street, near Charles; R. D. Burns, foot of Bowly's wharf; Mr. Wilner, No. 2 Bowly's wharf—all commission merchants.

Virginia references: Hon. William S. Archer, Virginia; Gen. B. Peyton, Virginia; Hill Carter, Virginia; Lewis G. Harvey, Virginia; Rowlett Hardy & Co., Petersburg; A. C. Lane, Richmond; Robert Cole, Richmond, Virginia; M. Heartwall, D. I. Payner, James B. Lundy, J. Ravenscroft Jones, Geo. W. Field, Col. Isham Trotter, John Winbeiks, Wm. Towns, Jas. Hays, Sr., Dr. Wm. W. Oliver, Samuel F. McGehee, William M. Watkins, William I. Scott.

We are prepared to sell State or County rights to those who wish to manufacture our Fan.

All orders addressed to the undersigned at the Baltimore City (Md.) Post Office, will be promptly attended to.

J. MONTGOMERY & BRO.

No. 155 N. High st., between Hillen and Gay streets,
may—1y Baltimore.

SUFFOLK PIGS.—The subscribers are prepared to receive orders for pure Suffolk Pigs, bred from stock imported by the late William Stickney in 1848, and by the subscribers in January; also an importation of twelve in October, 1853. Address

JOSIAH STICKNEY, Watertown,
Or, ISAAC STICKNEY, Boston, Mass.

ap—3t

IMPROVED SUPER PHOSPHATE OF LIME.—The subscriber is manufacturing the above at his Bone Mill, a short distance from the city, of the best and purest kind. Farmers are requested to examine his before purchasing elsewhere; the quality will speak for itself, and his price is the same as that manufactured out of the State.

may—1f

R. R. DUVAL.